

RECORDS CODE SHEET
SND 4535 (Rev. 7/63)

NAVAL AVIATION SAFETY CENTER

GENERAL (Card No. 1)

SUPPLEMENTARY (Card No. 2)

Bureau Number	056522	16-21	Weather	0123	16-21
Reporting Custodian	RL52	22-24	Kind of Flight	212	22-24
Type Duty	L	25	Relative Wind - Direction	R	25
Major Command	5	26	Relative Wind - Velocity	5	26
Aircraft Damage	A	27	Special Attention	1	27
Aircraft Injury	A	28	Clearance	1	28
Time of Day	4	29	Maneuver prior to Occurrence	R	29
Carrier Hull Number		30	Number of other Aircraft		30
First Accident type	01	31-32	Primary Causal Factor	F9	31-32
First Accident phase	6	33-35	Altitude of Occurrence or Emergency	003	33-35
Second Accident type		36-37			
Second Accident phase		38-40			
Type of Operation	5	41-42			
Contributing Cause Factors	11728	43-47	Non-Navy Injury ("R")	(121/100)	R 42
Pilot Factor, First	F9	48-49	Number of "A" or "U" Injury	06	43-44
Pilot Factor, Second	SX2	50-51	Number of "B" Injury	0X	46-47
Pilot Factor, Third	G3	52-53	Number of "C" Injury		48-49
First other Personnel Factor	B2	54-55	Number of "D" Injury		50-51
Second other Personnel Factor	A7	56-57	Number of "E" Injury	01	52-53
Primary Major Material Factor		58	Number of "F" Injury		54-55
Secondary Major Material Factor		59	Number of "G" Injury		56-57
Design		60	Location	1A1 IN1Y1	62-68
Facilities		61			
Special Data & Cond.	GNM	62-65			
Special Data & Cond./Type of Incident		66			
Primary Cause	1	67	ACCIDENT DAMAGE	A	
1st Poss. of Pri. Causal Factor	F	68	ACCIDENT INJURY	A	
1st Possible Cause & Causal Factor	772/100	69-71	FISCAL YEAR	4	
2nd Possible Cause & Causal Factor		72-74			
No Personnel Card ("R")		80			

Model Code: 63

Don't Count	Emergency Action	Other Aircraft
1. D.	4 0 3	0 6 1 0 1
NO.	YR	MO
		DAY
		TYP
		SEQ
		11 12 13 14 15
		Model

PERSONNEL STATISTICS
(Card No. 3)

File Number	Name	Rank/Rate	Br Service	Age	Yrs Experience	Status	Position	Inj to Inf	Abandon A/C	Flight Ejector	Trainer	Utilization	Instr. Card	Total Time All Models	All Models 3 Months	All Series This Model	All Ser Mod 3 Months	CV Landings	Instrument Hours	Wing Hours	Total Time Jet or Helo	
03	MORRIS N	H11	00	1	0	0	1	0	1	0	0	3	4	3	0	3	1	6	1	1	0	6
04	BAKER R	J21	00	1	0	0	2	0	1	4	0	2	4	5	0	5	1	5	0	9	1	2

File Number (b) (6)

IBM: PERSONNEL CODED ON REVERSE SIDE

CODED cl REVIEWED HPG LOGGED 4 PUNCHED HPG VERIFIED HPG

CODE SHEET REVIEWED BY CLASS DESK ANALYST

(Initials)

(Date)

5-25-64

YEAR		MONTH		DAY		TYPE		NUMBER		DAMAGE		INJURY		MODEL	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
4	0	2	8	6	1	0	1	A	A	-	C	5	4	Q	

0	5	6	5	2	2
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7576	7779
463	6

[illegible]

16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80																
NITE IFR X-COUNTRY. DEST WX SC OVCST 1 1/2 MI LT RA & FG																																																																																2
WIND SE 26 KTS. ILS RPTD DN BUT PUT IN OPER DUR VOR APR																																																																																22
TO RWY 14. PLT REQ & REC CLRNCE FOR ILS TO RWY 5. VOR																																																																																23
BRKN OFF & ILS COMMCD. 1ST APCH MISSED. A/C CLRD 2ND APR																																																																																24
A/C BROKE CLR. PLT ADVSD EXCSV X-WIND & GOING AROUND.																																																																																25
TWR SUGGSTD CHNGE RWY & SWTCHD LITES TO RWY 14. A/C CLD																																																																																26
FOR LFT 270 OR RT 360 TO RWY 14. A/C OBSVD TO MAKE SHRP																																																																																27
RT TURN AFTR WAVNG OFF. DESCNDED IN TURN & STRCK GND																																																																																28
AFT TURNING APPROX 100 DEG. PILOT WX O/P.																																																																																29

27 MAY 1954

VERIFIED

50
U. S. NAVAL AVIATION SAFETY CENTER
U. S. NAVAL AIR STATION
NORFOLK, VIRGINIA 23511

NASC/dy
Ser 12/ 1488
18 September 1964

SPECIAL HANDLING REQUIRED IAW OPNAVINST P3750.6 SERIES

From: Commander, U. S. Naval Aviation Safety Center
To: Commanding Officer, U. S. Naval Weapons Evaluation Facility,
Kirtland Air Force Base, Albuquerque, New Mexico

Subj: NWEF Albuquerque AAR ser 1-64A concerning C-54Q BuNo 56522
accident occurring 6 February 1964, pilot MORRIS

1. The subject report and all endorsements thereon have been reviewed. The Naval Aviation Safety Center concurs with the comments and recommendations of the Aircraft Accident Board as modified by subsequent endorsers.
2. The most probable cause of this accident is pilot error. Considering the relatively limited experience in the aircraft of the pilot and co-pilot, the long elapsed time since their last actual instrument approaches, and the adverse weather conditions prevailing at the time of the accident, it is apparent that the pilot attempted a maneuver for which he was at best marginally qualified. In attempting to remain contact under minimum weather conditions, the pilot obviously exceeded the limit of his capabilities.
3. The cause of this accident has been recorded by the Center indicating the pilot (attempted to maintain contact under marginal weather conditions) as the primary factor and other personnel (supervisory) and weather as contributing factors.

(b) (6)

By direction

Copy to:
BUWEPs (F-12) (2)
COMNAB 3, 8
CNARESTRA
BUWEPsREP INGLEWOOD

008:WRZ:kh
9 JUN 1964

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66, OPNAVINST P3750.6E

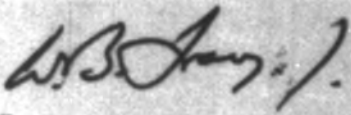
FIFTH ENDORSEMENT on NWEF AAR 1-64A concerning C-54Q BUNO 56522, Accident occurring 6 February 1964, pilot MORRIS.

From: Commander, Naval Air Bases, EIGHTH Naval District
To: Commander, U. S. Naval Aviation Safety Center

Subj: Aircraft Accident Report; forwarding of

1. Forwarded.

2. The original of the THIRD ENDORSEMENT by Commander Naval Air Bases, EIGHTH Naval District, is considered lost. A duplicate original has been inserted.


W. B. TRACY Jr.

Copy to:
BUWEPS (Code F-123)
CO NWEF Kirtland AFB
COMNABS THREE

F-123:ATP/158

3 JUN 1964

FOURTH

THIRD ENDORSEMENT on NWEF AAR 1-64A concerning C-54Q BUNO 56522, accident occurring 6 February 1964, pilot MORRIS

From: Chief, Bureau of Naval Weapons
To: Commander, U. S. Naval Aviation Safety Center
Via: (1) Commander, Naval Air Bases, EIGHTH Naval District

Subj: Aircraft Accident Report

1. Readdressed and forwarded.

2. The Bureau concurs in the conclusion and recommendations of the Board and subsequent endorsers. Review of R&D activities progress on NATOPS requirements will be conducted during each comprehensive Survey.

(b) (6)

By direction

Copy to:
COMDR NAB 3rd ND
CO NWEF, Kirtland AFB

008:WRZ:kh
22 APR 1964

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66, OPNAVINST P3750.6E

THIRD ENDORSEMENT on NWEF AAR 1-64A concerning C-54Q BUNO 56522, Accident occurring 6 February 1964, pilot MORRIS.

From: Commander, Naval Air Bases, Eighth Naval District
To: Commander, U. S. Naval Aviation Safety Center
Via: Chief, Bureau of Naval Weapons

Subj: Aircraft Accident Report; forwarding of

1. Forwarded concurring with the conclusions and recommendation of the basic report and the recommendations of the FIRST ENDORSEMENT with the following exceptions:

a. The FIRST ENDORSEMENT in paragraph 5.e. requests that the difference between the requirements of OPNAVINST 3740.4C and the C-54 NATOPS Manual be resolved. The letter of promulgation of the C-54 NATOPS Manual dated 26 April 1963, and the subsequent edition, specifically states that "Should conflict exist between this manual and other publications, this manual will govern". Therefore, since no waiver was requested in Captain MORRIS's Plane Commander designation request, this endorser must consider Captain MORRIS to have been ineligible at the time of his designation.

b. Both the original NATOPS Manual and the latest revisions state that "Whenever possible, scheduling officials should give consideration to the varying experience levels of crew members". Since the pilot and co-pilot had only 161 and 154 hours respectively in the C-54, this must be considered to be a "weak" crew and should not have been scheduled. It is the opinion of this endorser that Supervisory Error (scheduling) be included as a contributing cause factor.

2. An extra copy of the AAR and all endorsements has been forwarded to Navy Flight Safety Liaison Officer, Deputy Inspector General for Safety, Norton Air Force Base in accordance with subparagraph 47.e.(2)(e) of OPNAVINST P3750.6E.


B. A. BANCROFT
Acting

Advance copy to:
NAVANSFCEN (2)

Copy to:
COMNABS THREE
NWEF
BWR EL SEGUNDO
NAVFLTSAFLIAOFF, NORTON AFB

ORIGINAL

FF12/RWC:lge
3750
Ser: AO/571
13 April 1964

SECOND ENDORSEMENT on NWEF AAR 1-64A concerning C-54Q BUNO 56522, accident occurring 6 February 1964, pilot MORRIS

From: Commanding Officer, U.S. Naval Weapons Evaluation Facility,
Kirtland Air Force Base, Albuquerque, New Mexico
To: Commander, U.S. Naval Aviation Safety Center
Via: (1) Commander, Naval Air Bases, EIGHTH Naval District
(2) Chief, Bureau of Naval Weapons

COPY FOR

Subj: Aircraft Accident Report

Ref: (a) OPNAVINST P3750.6E

Encl: (1) NWEF C-54Q Ground Training Syllabus
(2) NWEF C-54Q Flight Training Syllabus
(3) Special Instrument and Yearly Standardization Flight
Check for for CAPT MORRIS dtd 12 Jun 1963
(4) Corrected C-54Q Examination completed by CAPT MORRIS
(5) NWEF Instruction 1510.2 dtd 29 Jan 1964

1. Forwarded.

2. The following comments are made on portions of the accident report considered applicable to the NWEF:

PART VII INVESTIGATION AND ANALYSIS

a. PAR. B.1.a. - Captain MORRIS was recommended for Plane Commander designation based on second tour pilot requirements specified in Par. 6.e. of OPNAVINST 3740.4C. He had been previously qualified in multi-piloted aircraft and was therefore not required to meet first tour pilot requirements, including 250 hours pilot time in model.

Captain MORRIS satisfactorily completed an instrument check on 29 April and an instrument standardization check on 12 June 1963. Through administrative error, the yearly standardization checks were not entered in the pilot's log book as required by OPNAVINST 3740.4C.

b. PAR. B.1.b. - CDR BAKER was likewise designated in a classification commensurate with his ability without progressing through a lower classification in accordance with the local interpretation of OPNAVINST 3740.4C. Although he was well familiar with the airplane and considered to be a competent Second Pilot, he did not possess the ability in the C-54 for Plane Commander designation even though his time in model was well above the minimum required by the NATOPS manual in effect during his training for upgrading.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH PARAGRAPH 66, OPNAVINST P3750.6E

ORIGINAL

c. PAR. B.3.a. - The pilot was considered to have attained minimum requirements for Plane Commander certification at the time of designation as stated in par. 2.a. above.

The C-54 NATOPS Manual was not yet available during Captain MORRIS' training cycle but ground and flight training during this period, though somewhat less than formal, were considered adequate. NWEF pilots qualifying in the C-54 were given a series of lectures covering aircraft systems, normal operating procedures, emergency procedures, crew management, cruise control, and weight and balance. Handbook exams, corrected to 4.0, were completed by all trainees. Local training was necessarily limited due to aircraft availability vs necessary logistic and administrative flights required of the single aircraft assigned. Captain MORRIS' local training time in model was admittedly limited but maximum training was conducted on cross-country flights in his case, as well as for other qualifying pilots. This training was conducted by a nucleus of three former MATS and Navy VR Aircraft Commanders who were most thorough and exacting in their instruction.

In the case of Captain MORRIS, these instructors, all of whom flew with him both before and after his designation as Plane Commander, were of the unanimous opinion that Captain MORRIS was among the most conscientious and capable aviators they had ever instructed. He was extremely meticulous in following prescribed procedures and had the unusual ability to always be "ahead of the airplane". Consequently he was able to perform well thought out evolutions promptly and smoothly.

d. PAR. E.1. - NATOPS currency requirements were known to both pilots concerned. However, employment of the assigned aircraft on necessary unit missions precluded accomplishment of approach and landing deficiencies in model prior to the extended flight on which the crash occurred.

The required approaches were completed by both pilots in other models as summarized in enclosure (R) of the AAR and, although no records were maintained, it is considered that other deficiencies enumerated in the AAR were accomplished since all C-54 pilots were instructed to practice one and two engine out emergencies whenever feasible during simulated instrument approaches.

PART VIII CONCLUSIONS

a. The stated cause is highly probable both from preconceived ideas based on minimum information concerning the accident and from the comprehensive information contained in the investigation and witness' statements. There is also a strong possibility that other causes such as loss of power on one or more engines through mechanical failure or carburetor or prop icing, inability to increase power due to frozen throttle linkage, split flaps, restriction of control surfaces or control actuating mechanisms due to mechanical failure or icing, loss of lift from surface icing, or visibility restriction due to ice or steam on the windshield or side window could have been cause factors. Although the AAR contains the statement that mechanical failures were investigated there is no evidence that all the possible causes were specifically considered.

Some form of icing would appear to be the most probable of these causes based on the highly conducive weather conditions stated in the AAR and (b) (6) belief that prop alcohol was being used during the approach.

PART IX RECOMMENDATIONS

- a. All recommendations of the basic AAR are concurred with.
- b. Air-crew member qualification records and procedures have been formalized and made more stringent to conform with the NATOPS manual. A thorough review and revamping of training, operating, and qualification procedures and records is presently being conducted to assure compliance with existing directives.
3. The following comments are made in response to the comprehensive and searching analysis made in the First Endorsement:

a. PAR. 3.c. - This analysis, derived from the last transmission heard from the aircraft and the maneuver being performed, is certainly plausible. However, the NWEF officers who listened to the tape recording are absolutely certain that all transmissions heard from 522, including the last, were made by CDR BAKER.

This being the case, it is inconceivable that CDR BAKER could have been controlling the airplane and operating the hand held mike simultaneously while addressing himself.

The Flight Mechanic ((b) (6) AE1), though understandably uncertain in his recollection of events immediately preceding the crash, does recall CDR BAKER pointing out the airspeed to CAPT MORRIS at some point between pull-up and striking the trees. This would appear to support the analysis by the board that CAPT MORRIS was actually controlling the aircraft.

b. PAR. 3.h. - Pertinent documents relating to crew member qualifications and syllabi in use at the NWEF are attached as enclosures (1) through (5). C-54 NATOPS Stan/Eval Supplements have not yet been received by the NWEF. Standardization checks have been conducted in accordance with the procedures outlined in the NATOPS manual since receipt of the manual in June 1963. Crew member qualifications are presently being conducted in accordance with enclosure (5) which went into effect one week before the accident. As certified by this command to the board, both SEITZ and (b) (6) had completed the requirements for designation as air-crew members. The paperwork to formally designate them in accordance with enclosure (5) had not been accomplished.

c. PAR 4.a.(2) - Use of non-agreed upon cockpit procedures is certainly a possibility but is not apparent from the investigation. The stated possibility that control of the aircraft changed at any time is considered invalid as stated in Par. 3.a. above. It is further considered that CAPT MORRIS would have fully appreciated the inadvisability of this action under the prevailing circumstances.

d. PAR. 4.a.(3) - The pilot's decision to undertake the flight with forecast marginal weather was undoubtedly effected by the consideration that if a landing could not be made at destination or alternate, he still had sufficient endurance to return to departure point or some other alternate with more favorable weather. This is evidenced by the fact that an estimated 4 + 00 hours of extra fuel was taken aboard prior to departure. Adherence to itinerary was also a consideration for making the flight since high priority test equipment to be loaded at Peconic was urgently required the following day at the NWEF for prosecution of A-6A BIS Trials.

e. PAR. 4.a.(4) - Pilot qualifications in accordance with existing directives are discussed under par. 2.a. above. There is no indication of the specific requirements of OPNAVINST 3720.2B which were not met and none are apparent from the AAR. CAPT MORRIS objectively interpreted the words "qualified in model" of Par. 11.e. of OPNAVINST 3710.15D to mean co-pilot designated as a 2 P or 3 P. This interpretation agrees with the terminology in Section IV, Par. 4.a.(1) - P. 13 of OPNAVINST 3710.7A wherein the co-pilot "qualified in model" does obviously not have to be an Aircraft Commander.

Chief of Naval Operations is requested to advise the NWEF concerning the validity of this interpretation and that contained in par. 2.a. above for future guidance.

f. PAR. 4.a.(5) - Maintaining proficiency in other aircraft than the C-54, by the pilots involved, was not done at the expense of reduced proficiency in the C-54. Flight time available in the one C-54 assigned was divided as equally as possible among the minimum number of pilots required to conduct transport and logistic flights necessary to the accomplishment of the Unit mission. These pilots were encouraged to utilize other types of aircraft when it was not their "turn" in the C-54 in order to maintain overall pilot and instrument proficiency. A cursory examination of Enclosure (R) to the AAR will reveal that both pilots were extremely conscientious in utilizing this flight time effectively.

g. PAR. 4.b.:

(1) Par. 4.b.(3) - Continuous use of oxygen is not considered feasible in the C-54 due to the deficiencies of the installed equipment. A practical policy of utilizing oxygen intermittently at night above 5,000 feet, depending on duration and pilot fatigue, was employed by assigned pilots. Oxygen was almost always utilized prior to and during descent to below 5,000 feet on night approaches. CAPT MORRIS was most conscientious in this regard and would have placed more than normal importance on this procedure on the night in question.

(2) Par. 4.b.(4) - The analysis in this paragraph referring to Mental Overload is highly pertinent. In this regard it is noted that the Tower Supervisor and Tower Controller state in Enclosure (L) and (M) to the AAR that 522 was cleared for a 270 turn to the left for runway 14. The transcript of Peconic Tower recording tape, Enclosure (K), however, states the actual

transmission as "Take a left 270 if you wish or a right 360 onto Runway 14." The 270 left turn would appear to be the most obvious and more preferable maneuver but the fact that "A right 360 onto Runway 14" were the last words the pilot heard was quite possibly detrimental in that this suggestion was automatically taken rather than performing the mental considerations required to arrive at the most preferable course of action due to the limited time available and the mental state of the pilot

(3) In addition to the contributing causes listed in section 4.b., gross weight of the aircraft should be included. The estimated weight of 63,000, which is only 500 pounds under recommended maximum gross landing weight, would have had an appreciable effect during the maneuver which was apparently being executed.

Failure of the ILS facility should also be listed as a contributing factor. Restoration of this facility after the pilots had set up for a VOR approach and the subsequent hurried and inadequate preparation for an ILS approach were the first elements in the chain of abnormal events which led to the fatal crash.

4. This command heartily concurs in the recommendations contained in the First Endorsement to the AAR with the exception of Par. 5.b.. The recommended investigation may be possible but is not applicable to the pilots of the NWEF as no assigned pilots or aircraft are utilized primarily for proficiency. All scheduled flights are primarily for necessary training, project, or administrative/logistic purposes.

The number of pilots qualified in a particular model aircraft is restricted to that required to perform necessary project work and in the case of non-project aircraft, to that necessary to perform required administrative/logistic flights.

Restriction of pilots to either jets or props at this activity is not considered necessary or desirable since it would not provide flexibility in the employment of pilots and aircraft assigned and would limit flight operations to the extent that accomplishment of assigned problems and tasks would be reduced to an unacceptable level.

5. Based on entries in his flight log, CAPT MORRIS was involved in no pilot error accident during the period 1 January 1956 through 5 February 1964. His accident record prior to 1956 is not available locally.

The available flight log accident record for CDR BAKER extends back only to 1 January 1962. The record shows no pilot error accidents during this period.

K. F. Rowell
K. F. ROWELL

Enclosure (1)

R5D PILOT GROUND TRAINING SYLLABUS

Period One:

1. Aircraft General
 - a. Description
 - b. Preflight check procedure
 - (1) Exterior inspection
 - (2) Interior inspection.

Period Two:

1. Standard Operating Procedures
 - a. Starting Procedure
 - (1) Techniques and precautions
 - (2) Common errors.
 - b. Taxi procedures
 - (1) Techniques and precautions
 - (2) Common errors.
 - c. Engine Run-up Procedures
 - (1) Techniques and precautions
 - (2) Common errors.

Period Three:

1. Standard Operating Procedures.
 - a. Before take-off procedure
 - b. Take-off procedures
 - (1) Normal, take-off
 - (2) Instrument and night take-off
 - (3) Crosswind take-off
 - (4) Short field take-off
 - c. Techniques and precautions
 - d. Common errors.

Period Four:

1. Standard Operating Procedures
 - a. Climb-out procedures
 - (1) Techniques
 - (2) Common errors.
 - b. Cruise Control
 - c. Fuel System Management and Fuel Capacities (R5D-2,
3, 4, and 5)
 - d. Oil System Management.

Enclosure (1)

ENCLOSURE [1]

Period Five:

1. Standard Operating Procedures.
 - a. Instrument flight procedures
 - b. Orientation methods and procedures
 - c. Radio range orientations
 - (1) Fade 90
 - (2) Close-in
 - (3) Fade Parallel
 - (4) Fade perpendicular
 - (5) CAR 90
 - d. ADF and MDF
 - (1) True fade
 - (2) Time and Distance Check
 - e. VOR (OMNI)
 - f. Holding procedures.

Period Six:

1. Standard Operating Procedures
 - a. Instrument letdown procedure
 - b. ILS and QCA
 - c. Low visibility approach
 - d. Missed-approach procedure.

Period Seven:

1. Standard Operating Procedures
 - a. Landing-approach procedure
 - (1) Normal landing
 - (2) Crosswind landing
 - (3) Short-field landing
 - b. Techniques and precautions
 - c. Common errors.

Period Eight:

1. Emergency Procedures
 - a. General
 - (1) Alarm bells
 - (2) Aircraft fire extinguisher system
 - b. Fire
 - (1) Engine section fire
 - (2) Wing fire
 - (3) Fuselage fire
 - (4) Smoke removal
 - (5) Baggage compartment fire
 - (6) Heater system fire.

Enclosure (1)

Period Nine: 1. Emergency Procedures

- a. Hydraulic system failure
 - (1) Refilling hydraulic reservoir in flight
 - (2) Emergency operation of the landing gear
 - (3) Emergency operation of the brakes
 - (4) Emergency air brake operation
 - (5) Emergency operation of the wing flaps
- b. Jettisoning cargo doors in flight
- c. Emergency landing with wheels retracted.

Period Ten: 1. Emergency Procedures

- a. Engine failure
 - (1) During take-off
 - (2) During cruise
 - (3) Engine failure due to loss of fuel pressure
 - (4) Failure of two engines
- b. Propeller feathering and unfeathering procedures
- c. Landing with one engine inoperative
- d. Landing with two engines inoperative
- e. Three-engine take-off.

Period Eleven: 1. Emergency Procedures

- a. Turbulence
- b. Ice accretion
 - (1) Glaze
 - (2) Rime
 - (3) Frost
- c. Carburetor icing
- d. Anti-icing and deicing procedures.

Period Twelve: 1. Emergency Procedures

- a. Ditching procedures
 - (1) Check list
 - (2) General instructions and preparations
 - (3) Surface conditions
 - (4) After ditching procedure
 - (5) Morale and rescue.

Period Thirteen: 1. Minimum Operating Equipment.

Period Fourteen: 1. Performance

- a. Cockpit check lists
- b. V1 and V2 Speeds
- c. Performance data.

Enclosure(1)

R5D WEIGHT AND BALANCE EXAMINATION

BASIC WEIGHT: 43,264 LBS.

BASIC INDEX: 84.0

OIL: 138 GALS. @ 7.5 LBS./GALS.

CREW: 4 @ 180 LBS. EACH "A" COMPT.

CREW BAGGAGE: 4 @ 60 LBS. EACH "B" COMPT.

FUEL: 3560 GALS. @ 5.77 LBS./GAL.

PASSENGERS:

"C" COMPT. 6 @ 180 LBS.

"D" COMPT. 4 @ 180 LBS.

"E" COMPT. 4 @ 180 LBS.

"F" COMPT. 8 @ 180 LBS.

"G" COMPT. 4 @ 180 LBS.

"H" COMPT. 3 @ 180 LBS.

CARGO:

"B" BELLY 435 LBS.

"H" BELLY 435 LBS.

ENCLOSURE 1

Enclosure (2)

R5D FLIGHT TRAINING SYLLABUS

Period One: 1. Familiarization

- a. Exterior inspection
- b. Interior inspection
- c. Use of the check list
 - (1) Before starting
 - (2) Before taxi
- d. Taxiing (Use of nose wheel and brakes)
- e. Engine run-up procedures
- f. Before take-off check list
- g. Crew briefing
- h. Take-off procedure
 - (1) Power application and settings
- i. Climb procedures
 - (1) V1 and V2 speeds
 - (2) Normal airspeeds
- j. Climbing turns
- k. Level off
- l. Cruise control and procedures
- m. Approach to stalls
 - (1) Gear and flaps up
 - (2) Power off
 - (3) Power on
 - (4) Gear and flaps down
 - (5) Power off
 - (6) Power on
 - (7) In normal turns
 - (a) Climbing
 - (b) Descending
- n. Standard rate turns
 - (1) Altitude
 - (2) Bank
 - (3) Airspeed
- o. Steep turns
 - (1) Altitude
 - (2) Bank
 - (3) Airspeed
- p. Airwork
- q. Take-off and landings (no touch and go).

Period Two: 1. Instrument Airwork

- a. Complete items a through 1 of first period

Enclosure (2)

ENCLOSURE (2)

- b. Instrument take-off
- c. Straight climbs
- d. Triple maneuver pattern
- e. Steep turns
- f. Unusual attitude (Partial and full panel)
- g. Engine failure procedures
- h. Hydraulic failure procedures
- i. Take-offs and landings.

- Period Three: 1. Orientations and Letdown Procedures
- a. Complete items 1 through 12 first period
 - b. Instrument take-off
 - c. Triple maneuver pattern
 - d. Steep turns
 - e. LF Radio Range orientations
 - f. Initial (high-cone) procedure
 - g. Procedure turn
 - h. Final approach
 - i. Minimum altitude low-cone procedure
 - j. Missed-approach procedures
 - k. Emergencies
 - l. Take-offs and landings.

- Period Four: 1. ADF/MDF, VOR, ILS, GCA and Low-approach techniques
- a. Complete items 1 through 12 of First Period
 - b. Instrument take-off
 - c. Triple maneuver
 - d. Steep turns
 - e. MDF orientation and time and distance problem
 - f. ADF approaches
 - g. VOR/ILS/GCA approaches
 - h. Initial (high-cone procedures)
 - i. Procedure turn
 - j. Final approach
 - k. Low-visibility approaches
 - l. Emergencies
 - m. Take-offs and landings

- Period Five: 1. Night Flight
- a. Complete items 1 through 13 of First Period.
 - b. Takeoffs and landings
 - c. Emergencies.

- Period Six: 1. Cross-country Flight (Min. 2 hrs.)
- a. Preflight duties
 - b. Weather analysis
 - c. Weight and balance

Enclosure (2)

- d. Weight and balance
 - e. ATC clearances
 - f. Use of check-off lists
 - g. Starting engines
 - h. Taxiing (use of nose wheel steering and brakes)
 - i. Take-off
 - j. Cruise control
 - k. Voice procedure
 - l. Airways procedure
 - m. Approaches (and type of approach)
 - n. Landings
 - o. Knowledge of route.
2. Oral Quiz
- a. Aircraft systems
 - b. Aircraft performance.
3. Military appearance
- a. Attitude
 - b. Initiative
 - c. Judgement
 - d. Ability.

Enclosure (2)

Flight Examination: (check appropriate squares)

4/12/63

- (✓) (1) Basic Air Work
- (✓) (2) Unusual Attitudes
- (✓) (3) Flight Planning
- () (4) Airways Flight (Round robin/cross-country)
- (✓) (5) Partial Procedures
- (✓) (6) Voice Procedures
- (✓) (7) Let Downs: ADF(✓), OMNI(✓), ILS(✓), IF Range(), Other GCA (✓).
- (✓) (8) Emergencies (✓), Other STANDARDIZATION ().

Recommended for ~~Standard~~/Special card.

(b) (6)

Check Pilot

4. CAPT MORRIS has satisfactorily completed the ground and flight phase of his instrument renewal. Special/~~Standard~~ instrument rating is recommended.

(b) (6)

Senior Member

FIRST INDORSEMENT

From: Commanding Officer
To: Senior Member Flight Board

1. Special/~~Standard~~ instrument rating approved.

[Signature]
Commanding Officer

C-54 INSTRUMENT/STANDARDIZATION CHECK

Flown in C-54Q BYNO 56525

ENCLOSURE [3]

CAPT MORRIS

U. S. NAVAL WEAPONS EVALUATION FACILITY
Kirtland Air Force Base
Albuquerque, New Mexico

43,469

20 February 1962

R5D EXAMINATION

1. Engines installed in the R5D are four 14 cyl. twin row
aircooled Pratt & Whitney, R-2000.
2. With landing gear retracted, the gear warning horn sounds when
any throttle is retarded to less than 4 open.
3. Manually leaning the carburetor below the AUTO-LEAN (CRUISE)
setting is not recommended since operating in this range may
cause deterioration and torque fluctuation.
4. Each engine incorporates an integral single stage,
two speed supercharger.
5. Carburetor air filters are not installed in the assigned R5D.
With the installed mechanical controls in the HOT position, the
ram air door shuts off cold airflow and
the hot air door is opened to allow preheated air to
enter the carburetor. In the COLD position, the RAM AIR DOOR is
open, allowing cold ram air to enter the carburetor,
and the HOT AIR door is closed, shutting off the supply of the
preheated air.
6. Can intermediate positions of the carburetor air levers
be used to obtain the desired CAT? Yes
7. The synchroscope indicates the speed of the other three
engines with respect to engine No. 1.

ENCLOSURE VA

8. Clockwise rotation of an engine synch needle indicates RPM on that engine is fast; counter-clockwise rotation of the needle would indicate lower RPM in relation to the master engine.
9. When the prop feathering motor is energized, high pressure oil from the pump automatically shuts off the metered flow of oil from the propeller governor and supplies high pressure oil to the propeller pitch change mechanism to feather the selected propeller.
10. For feathering, 1.4 gal. of oil is reserved in each engine nacelle oil tank.
11. When a prop feathering button is depressed, the feathering pump is energized and a 28V DC holding coil holds the feathering switch in until the propeller is feathered, which requires approximately 7 seconds; the button then pops out to the normal position.
12. How can the feathering operation be interrupted? By pulling out feathering button.
13. To unfeather a propeller in the air, the feathering button is depressed and held in manually until the blades move out of the feathered position and approximately 800 rpm is indicated.
14. Each engine has an independent oil system with its own tank. The capacity of each tank is 22 gals. plus 3 3/4 gals. expansion space.

15. What is the capacity of the auxiliary oil tank? 50 gal.

plus 5 gal. expansion. Where is the tank located?

Relief crew compartment under lower bank:

16. Total usable fuel capacity in the six tank system without fuselage tanks is 2800 gallons. The usable capacity of individual tanks is as follows:

MAIN (Nos. 1 & 4) 500 gal. each

MAIN (Nos. 2 & 3) 490 gal. each

AUXILIARY (LH & RH) 420 gal. each

17. Where are the auxiliary fuel tank selector levers located?

under floor plate aft of control pedestal

18. What are the positions available on the left auxiliary tank

selector lever? off, onto left engine, onto all engines

What are the positions for the right lever? off, onto RH engine, onto all engines.

19. What function do the crossfeed selector levers accomplish?

They mechanically actuate the crossfeed valves to permit fuel flow through the crossfeed line. Allow transfer between LH & RH wing tanks.

20. The DC power supply in the assigned R5D consists of two 300

ampere engine driven generators and two 12 volt,

88 amp-hr storage batteries wired in series.

21. What is the minimum battery voltage required to close the

battery relay enabling the generators to recharge the batteries?

18 volts.

22. What electrical outputs can be measured by the DC selector switch? Pos + gen., main bus + starboard gen.
23. Under what conditions do the generator warning lights illuminate? When generator voltage drops to less than 2 volts of battery voltage.
24. The assigned R5D has a two-inverter AC power installation. What are these inverters called and what three switches control the system? Radio inverter and radar power inverter. Inverter selector switch, AC power switch, and radar power switch.
25. Name the six components operated by the hydraulic system. Wheels, flaps, nose wheel steering, windshield wipers, cowl flaps, and brakes.
26. Which engines power the two main hydraulic pumps? 2 + 3
27. What is the function of the hydraulic system bypass valve? Allows hydraulic fluid to be diverted from the pumps directly to reservoir.
28. What is accomplished by placing the emergency landing gear extension handle in the AFT or OPEN position? Opens landing gear emergency extension valve + permits fluid in up line to return to reservoir, permitting landing gear to drop by own weight when handle is down.
29. When are the three green landing gear indicator lights illuminated? When gear handle is ^{fully} down and nose and main gear are down and locked.

30. When is the landing gear red warning light illuminated?

When any gear is any position other than full up or full down or when any throttle is retarded past the 4 open position.

31. What three systems can be utilized to operate the brakes?

normal hydraulic system, hydraulic hand pump, and emergency air pressure.

32. Which engines power the engine-driven vacuum pumps?

2 & 3

33. Name the six areas or components in which fire is indicated

by fire warning lights. 4 in engine accessory sections, the nose section, and the lower cargo compartments

34. How many CO₂ bottles are incorporated in the fire extinguish-

ing system and where are they located? 4. 2 each on port and starboard side of nose wheel compartment.

35. How are the CO₂ cylinders discharged? By pulling CO₂ discharge handles

36. What external indication is there that the CO₂ cylinders have been fired? Blow discs above nose wheel doors

37. What should be the position of the firewall shut-off valves during preflight inspection? All in. at 45° angle

38. How much of the main gear strut piston should be exposed on ground check? 3 1/4" Nose gear strut?

3 7/8" max.

1600
40
9600
220
50320
12
1220

39. Where is the hydraulic fluid reservoir sight gage located and how can it be read? On 5th side below ^{inboard} rear seat

in forward pass compartment through hydraulic inspection door
or through hydraulic inspection plate.

40. During take-off, at what speed are the flaps retracted?

120% of power-off stall speed + gear retracted
When is METO power set? after gear is retracted & climb established
When is climb power normally set?

When 128 Kts is reached.

check on 41. What should cylinder head temp be before shutdown?

missing 180° or below

page 2-14a? 42. Give the minimum control speed for take-off configuration following gear retraction. 83 Kts

43. Recommended minimum one engine out operation is never less than 110 % of the minimum control speed (92 KIAS) or 115 % of power-off stall speed for the given gross weight.

44. At what gross weights is the minimum control speed greater than zero thrust stall speeds? 60,000 + ~~below~~

45. What is the basic weight of the assigned R5D? 43,469 lbs.

46. What is the approximate take-off weight with 1600 gal. fuel and crew of four? 53,789 lbs.

47. What is the maximum allowable take-off gross weight?

73,000 lbs. Maximum landing gross weight? 63,500

48. Give the recommended take-off and flap retraction speeds for the following gross weights:

	TAKE-OFF	FLAP RET.
55,000 lbs.	<u>88</u>	<u>107</u>
60,000 lbs.	<u>92</u>	<u>110</u>
65,000 lbs.	<u>95</u>	<u>115</u>
70,000 lbs.	<u>99</u>	<u>119</u>
76,000 lbs.	<u>103</u>	<u>125</u>

49. Give the first eight steps to be performed in the event of engine failure during take-off after critical engine failure speed has been reached:

1. Climb at V_2 speed
2. Gear up
3. Feather engine
4. Flaps up at appropriate speed after obstacles cleared.
5. Close throttle
6. Mixture - idle cutoff
7. Pull fire extinguisher selector handle
8. If fire exists, pull either DO handle

These eight steps MUST BE MEMORIZED. Refer to emergency check-list for remaining items to secure engine.

50. Give the first five steps to be performed in the event of engine failure in flight.

1. close throttle
2. Feather
3. Mixture-idle cutoff
4. Pull fire extinguisher selector handle
5. If fire exists, pull CO₂ handle

These five steps MUST BE MEMORIZED. Refer to emergency check-list for additional steps to secure engine.

51. For restarting an engine in flight the associated propeller control should be in the full high position, airspeed below 122 Kts. Turn engine minimum of 8 blades with starter and depress feathering button until propeller windmills at 500 to 800 RPM.

52. If the fuel pressure drops below normal operating limits in flight and the affected engine continues to operate normally, what is the preferred procedure? Mixture-idle cutoff
and shut down engine if power is not necessary to sustain flight.
What alternative procedures could be utilized? Keep engine operating at or above cruise speed while watching for fire or continue operating engine normally.

53. Give RPM and aircraft configuration for landing pattern with all engines operating and with one or two engines inoperative:

	DOWNWIND	BASE LEG	FINAL	GO-AROUND
ALL ENGINES:				
RPM	<u>2700</u>	<u>2300</u>	<u>2700</u>	<u>2700</u>
FLAPS	<u>10</u>	<u>10</u>	<u>as required</u>	<u>15</u>
GEAR	<u>down</u>	<u>down</u>	<u>down</u>	<u>up</u>
AIRSPEED	<u>120</u>	<u>120</u>	<u>110</u>	<u>128</u>
3 ENGINES:				
RPM	<u>2300</u>	<u>2300</u>	<u>2000</u>	<u>2700</u>
FLAPS	<u>10</u>	<u>10</u>	<u>20 max</u>	<u>30</u>
GEAR	<u>up</u>	<u>down</u>	<u>down</u>	<u>up</u>
AIRSPEED	<u>122</u>	<u>122</u>	<u>122</u>	<u>break 4 = 122 kts speed</u>
2 ENGINES:				
RPM	<u>2550</u>	<u>2550</u>	<u>2700</u>	<u>2700</u>
FLAPS	<u>0</u>	<u>0</u>	<u>10</u>	<u>20</u>
GEAR	<u>up</u>	<u>up</u>	<u>down</u>	<u>up</u>
AIRSPEED	<u>above normal</u>	<u>122 min</u>	<u>122 min</u>	<u>break 4 = 122 kts speed</u>

54. Give the procedure for lowering the landing gear in the event of main hydraulic system failure. Lowering gear lever-down. If gear does not latch, pull emergency gear extension handle to open. If gear still does not lock, close hand pump selector, close emergency gear extension handle and use hand pump.

U. S. NAVAL WEAPONS EVALUATION FACILITY
Kirtland Air Force Base
Albuquerque, New Mexico

NWEF 1510.2
Code AO
29 Jan 1964

NWEF INSTRUCTION 1510.2

From: Commanding Officer, U.S. Naval Weapons Evaluation Facility,
Kirtland Air Force Base, Albuquerque, New Mexico
To: Distribution List

Subj: Aircrewman; qualification and designation of

Ref: (a) BUPERS Manual, Article C7403
(b) OPNAV INST 1510.4C

Encl: (1) General Requirements for Aircrewman
(2) Requirements for C54Q Crew Members
(3) Requirements for A1E Crew Members
(4) Requirements for S2A Crew Members
(5) Requirements for A3A Crew Members

1. Purpose. To promulgate the provisions for aircrewman designation set forth by reference (a), and to establish procedures for the qualification of aircrewmen in accordance with the requirements of reference (b).

2. Discussion. To promote the effectiveness of crew member performance and to enhance the prestige associated with the aircrewman designation, only those men who exhibit the initiative, interest, and broad knowledge of the professional airman will be designated as aircrewman. Personnel under orders as crew members will be allowed eighteen months to accomplish their qualification. For personnel under orders as crew members on 1 January 1963, this period will be computed as of that date. Thereafter the period will begin as of the date appropriate orders are issued. Personnel who fail to qualify as aircrewman after the eighteen month period will be ineligible for further crew member orders for a period of two years or until re-enlistment. The designation "Aircrewman" is valid only in those specific aircraft types in which qualification was achieved.

3. Eligibility. Aircrewman candidates shall fulfill the following overall eligibility requirements as set forth in reference (a):

a. Have completed at least two years Naval service and be currently serving as a Third Class Petty Officer or above.

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- b. Be a volunteer for aircrewman duties.
- c. Be physically and psychologically qualified for aircrewman duties.
- d. Satisfactorily meet all requirements established by reference (b) and set forth in enclosures (1) through (5).

4. Aircrewman Classification. The following classification and minimum requirements for designation as aircrewman have been established by reference (b):

- a. Flight Engineer - 100 panel hours in an appropriate aircraft.
- b. Flight Crew Plane Captain - fifty hours as Plane Captain.
- c. Attack Aircrewman - fifty hours as aircrewman in an appropriate aircraft.
- d. Flight Communications Operator - fifty hours in an appropriate aircraft, send and receive five letter code groups at not less than fourteen groups per minute.
- e. ECM/AEW Aircrewman - fifty hours in an appropriate aircraft.
- f. ASW Aircrewman - fifty hours in an appropriate aircraft.
- g. Special Duty Aircrewman - participate in at least ten operational flights requiring the appropriate technical specialty.

5. Action

a. Coordination and supervision of aircrewman training is assigned to the Aircrewman Training Officer. He shall maintain such records as necessary to properly control crew training and the successful progress of all aircrewman candidates. Upon each successful completion of the training, the AC Training Officer will submit a request for designation of the aircrewman candidate to the Commanding Officer, via the Department Head concerned. Appropriate entries will be made in the daily diary and individual service records, the NEC codes reviewed for possible change recommendations. The Aircraft Project Officer will submit and keep current the appropriate enclosure to this Instruction for aircrewman qualification in his assigned aircraft.

b. Completion of training requirements will be accomplished through shop instruction, scheduled group training, and training flights. All candidates will complete the requirements set forth in enclosure (1), and the appropriate check form contained in enclosure (2) through (5).


K. H. MORRIS

Distribution:
List 1

General Requirements for Aircrewman

1. Minimum two years Naval Service, PO3 or above.

(Personnel Officer)

(Date)

2. Flight physical completed (within previous 12 months).

(Flight Surgeon)

(Date)

3. Low pressure chamber checkout (within previous 24 months).

(Flight Surgeon)

(Date)

4. First aid lecture.

(Corpsman)

(Date)

5. Survival lecture.

(AC Training Officer)

(Date)

Enclosure (1)

Requirements for C54Q Plane Captain**A. PRE-FLIGHT**

1. General familiarity with aircraft
2. Proper execution of daily pre-flight check form
3. Proper oil and fueling procedures
4. Knowledge of Supply forms in A/C flight packet
5. Calculation of weight and balance data
6. Proper cargo stowage
7. Submission of yellow sheet
8. Location of electrical component circuit breakers
9. Starting engines
10. Complete working knowledge of pilot check list
11. Demonstrate knowledge of taxi signals
12. Be able to taxi aircraft

B. IN-FLIGHT

1. Demonstrate proper use of all A/C communication and navigation radios.
2. Proper use of all A/C survival equipment
3. Demonstrate knowledge of A/C ditching and bail out procedures
4. Demonstrate knowledge of fuel system operation and management
5. Demonstrate knowledge of engine standard operating procedures

Enclosure (2)

6. Demonstrate knowledge of all anti-icing and de-icing equipment
7. Emergency operation of
 - a. Landing gear
 - b. Hydraulic system
 - c. Propellers
 - d. Electrical system
8. Feathering and unfeathering procedures

C. POST-FLIGHT

1. Proper post flight inspection
2. Proper yellow sheet entries
3. Demonstrate ability to secure A/C for gale conditions

D. MAINTENANCE PROCEDURES

1. Replace prop governor and set high RPM
2. Read and understand engine analyzer
3. Operations of oil coolers and regulators
4. Oil pressure adjustment
5. Remove, clean and install fuel strainers
6. Replace engine driven fuel pump and adjust pressure
7. Replace carburetor and adjust idle settings and linkages
8. Change hydraulic pump
9. Know service procedures for hydraulic reservoir and accumulators.

Enclosure (2)

10. Knowledge and operation of
 - a. A/C heating and ventilating system
 - b. Oxygen system
 - c. Fire extinguishing system
11. Service and repair wheel and brake assemblies
12. Replace and troubleshoot generators
13. Demonstrate working knowledge of electrical system and components.

Requirements for C54Q Flight Communications Operator

1. General familiarity with aircraft
2. Proper execution of applicable sections of daily preflight check form.
3. Proper oil and fueling procedures
4. Knowledge of Supply forms in aircraft flight packet
5. Ability to send and receive five letter code groups at not less than 14 groups per minute.
6. Ability to operate and troubleshoot all installed electronics equipment
7. Demonstrate working knowledge of electrical system and components
8. Proper use of all A/C survival equipment
9. Demonstrate knowledge of A/C ditching and bailout procedure

Enclosure (2)

NWEP 1510.2

Requirements for C54Q Flight Orderly

1. General familiarity with aircraft
2. Proper execution of applicable sections of daily preflight check form
3. Proper oil and fueling procedures
4. Knowledge of Supply forms in aircraft flight packet
5. Proper cargo stowage
6. Proper use of all A/C survival equipment
7. Demonstrate knowledge of A/C ditching and bailout procedures
8. Demonstrate ability to secure A/C for gale conditions

Enclosure (2)

Requirements for ALE Crew Member

A. PRE-FLIGHT

1. General familiarity with aircraft
2. Be able to conduct a minimum pre-flight of A/C. (Oil, gas, oxygen, hydraulics, switches in proper position, location and use of wheel and bomb rack pins, etc)
3. Proper cargo stowage
4. Working knowledge of taxi signals and proper use of fire bottle on starting

B. IN-FLIGHT

1. Demonstrate proper use of NAV/Communications equipment in A/C
2. Proper use of A/C survival equipment
3. Demonstrate knowledge of A/C ditching and bailout procedures for front and rear cockpit

C. POST-FLIGHT

1. Demonstrate proper securing procedure for A/C after shutdown (Chocks, pitot, wheel and rack pins, canopies, tie downs, jury struts, etc)

D. ADDITIONAL

1. Be familiar with procedures for hanging bombs/fuel tanks on A/C
2. Be familiar with operation of bomb racks
3. Be able to operate armament and instrumentation switches in cockpit

Enclosure (3)

Requirements for S2A Crew Member

A. PRE-FLIGHT

1. General familiarity with aircraft
2. Proper execution of daily preflight check form
3. Proper oil and fueling procedures
4. Location and function of all circuit breakers
5. Complete working knowledge of pilot check list
6. Starting and securing engines
7. Demonstrate use of auxiliary power equipment, fire bottle, and proper signals to direct starting of engines

B. IN-FLIGHT

1. Demonstrate proper use of NAV/Communications equipment in A/C
2. Proper use of A/C survival equipment
3. Demonstrate knowledge of A/C ditching and bailout procedures
4. Demonstrate emergency operation of flaps, torpedo bay doors, and landing gear (know where to cut cockpit deck for emergency nose gear lowering).

C. POST-FLIGHT

1. Proper engine shutdown procedures for all weather conditions (including oil dilution)
2. Demonstrate ability to secure A/C after shutdown for all weather conditions

Enclosure (4)

Requirements for A-3A Flight Crew Plane Captains

While normally not a member of the flight crew, the flight crew plane captain, both on the ground and in the air, is a vital member of the A-3A flight team. His qualification requirements include the following:

1. Properly complete the aircraft pre-flight inspection two hours prior to the first flight of the day.
2. Keep the aircraft clean and serviced for the mission assigned.
3. Have personal knowledge of all aircraft discrepancies and the status of each.
4. Check the stowage, availability and condition of all survival equipment required in the aircraft.
5. Ensure that frequency cards and cockpit check lists are up to date, neat and legible.
6. Assist the pilot and third crewman during the preflight inspection of the aircraft.
7. Assume the third crewman's inflight duties, excluding navigation, when flying in lieu of a third crewman or when directed by the pilot to do so.
8. Have a working knowledge of the A-3A/B hydraulic system, emergency systems, radios, and all flight equipment. Know thoroughly the requirements for servicing the aircraft.
9. Ensure adequate indoctrination and supervision of plane captain trainees assigned.

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23 MAR 1964

FIRST ENDORSEMENT on NWEF AAR 1-64A, concerning C-54, BUNO 58522, accident occurring 6 February 1964, pilot MORRIS

From: Commander Naval Air Bases, Third Naval District
To: Commanding Officer, U.S. Naval Weapons Evaluation Facility

Subj: Aircraft Accident Report

Ref: (a) OPNAVINST P3750.5E
(b) Handbook for Aircraft Accident Investigators (NAVWEPS 00-80T-67)
(c) BUWEPS 282053Z FEB 64
(d) Telex between Captain Hinman, COMNAV-3 and Captain BALL, NAVAVNSAFECEN, of 19 March 1964

1. Forwarded.

2. The subject report was received within the allotted 14 day time limit, was informally reviewed and returned for additional investigation. An additional 14 days extension was requested from BUWEPS and approved by reference (c). The present report is now in essentially the same form as originally received with some amplification. It is considered to be lacking in depth, incomplete in some details, but is forwarded in accordance with reference (d) in view of the time lapse which has already taken place since the accident.

3. The following specific comments are made:

PART VII INVESTIGATION AND ANALYSIS

a. Para A.1. states that Staff Sgt (b) (6) a survivor, was interviewed. There is no enclosure containing Staff Sgt (b) (6) statement.

b. Para A.4. There is no statement by a meteorological officer documenting the weather situation at the time of the accident. In addition there is a lack of information on the weather briefing received at Bunker Hill, weather forecast enroute and destination, source of the weather report given the aircraft by Peconic Tower, and method of determining the ceiling at Peconic.

c. Para A.7. states that tape of radio transmission from the aircraft contains a statement by CDR BAKER "Watch your head, Jack, you're at 300 feet." This was taken by the Board to mean a warning to CAPTAIN MORRIS to watch ahead, but this reasoning is not clear. Furthermore, CAPTAIN MORRIS' name is Kyle Hunter Morris. His co-pilot's name was CDR Robert Jackson Baker. The question arises as to whether the transmission was from CDR BAKER or from CAPTAIN MORRIS, and in the latter case there is a possibility that CDR BAKER was actually at the controls instead of CAPTAIN MORRIS. The fact that the aircraft was making a right-hand approach lends some weight to the possibility that control

ORIGINAL

was shifted to CDR BAKER some time shortly before the accident. A statement is further made that "CAPTAIN MORRIS was concentrating his attention on maintaining visual contact with the runway by looking out the co-pilot's window." There is no evident source of information which makes it possible for the Board to know that this was actually the true circumstance.

d. Para A.9. There is no positive indication that the Board examined the wreckage with sufficient thoroughness to confirm the fact that material failure or malfunction was not a factor. The possibility of power loss of one or more engines, the possibility of a split flap condition was evidently not investigated, and in general the material investigation of the wreckage was covered in a cursory manner.

e. Para A.11. lists records received and not received from NWEF, but there is no comment nor analysis of these records, without which the report cannot be considered to be complete.

f. Para B. 1.a. & b. lists certain facts concerning pilot flight time, but there is no analysis of these facts.

g. Para B. 1.e. The MOR mentions non-use of oxygen and non-use of seat belts. However, no mention was made of this in the basic report, although the MOR should supplement and substantiate pertinent facts in the basic report.

h. Para B.3. There is no indication of which specific OPNAV Instructions were not complied with and what specific minimum requirements in the directives were not met by CAPTAIN MORRIS and other pilots. Documentation was apparently not available from NWEF, either indicating compliance or non compliance of directives, although this information should be readily available. NWEF is requested to furnish any additional pertinent documentation as a supplement to this report.

i. Para E. NATOPS requires completion of certain ground training for pilots and flight crew members. There is also a requirement for completion of formal flight training syllabi for pilots. The basic report fails to comment on any of these requirements for the pilots involved or to analyze such facts as are available. The report also contains a statement of a difference in flight time requirements in model between NATOPS and OPNAV directives but no comment is made as to the board's recommendation. OPNAVINST P3750.6E specifically asks whether a NATOPS requirement or procedure has been a factor. The report fails to answer this.

j. COMMENTS ON ENCLOSURES

(1) There are a number of facts contained in the various enclosures which are relevant to the accident but not contained in the basic report. The enclosures should substantiate the facts stated in the basic report and not be the sole repository of these facts.

(2) Photographs show only wreckage in general and contain little or no detail as to the condition of various components, i.e., engines, propellers, flaps. The photograph indicating the flight path, enclosure (Y), lacks completeness. The probable route of the aircraft in relation to local radio aids, approximate positions, times, altitude, identification of runways, and location of key witnesses should be shown in order to better understand the narrative of the accident.

(3) It is noted that enclosure (R) is not complete nor is it in the format required by reference (a).

4. The Board fails to state any conclusions as to the underlying causes of the accident. Based on the facts available in the AAR, COMNAV-3 believes the most probable underlying causes to be as follows:

a. Primary cause. The most probable cause is considered to be pilot error. Since it has not been established conclusively which pilot was at the controls at the time of the accident pilot error cannot be assigned to a particular pilot.

(1) Errors by the pilot were made in approach and missed approach procedures. If aircraft material failure was not a factor, as it would appear from lack of evidence to the contrary, it can be stated that the pilot erred in the control of the aircraft by causing or allowing it to go into a steep bank at low altitude with apparently little power and to subsequently strike the ground. It can only be conjecture as to what caused the pilot to err in the control of the aircraft. Any one or combination of the following factors could have caused the pilot to err; vertigo, disorientation (spacial), inattention to the attitude of the aircraft and operating conditions, visual fixation on some object either in cockpit or outside, preoccupation with aircraft equipment.

(2) The possibility exists that non-use of standard or agreed upon cockpit procedures also contributed to the accident. In connection with this there is also the possibility that control of the aircraft changed from the pilot who made the final approach to the acting co-pilot for the purpose of letting him make the landing (as he would have better view of the runway during a right turn), the change taking place at a time when the co-pilot was not oriented or ready to assume control.

(3) It is considered that the pilot in command erred in judgment in attempting to go to Peconic for a landing at night when the forecast for both destination and alternate was marginal with a 300 foot ceiling, one mile visibility, rain, and fog. That the pilot erred in judgment is particularly emphasized when this flight is weighed against the records of the pilot's and co-pilot's limited training and experience in the C-54 aircraft.

(4) Also under pilot error must be listed the failure to meet all the requirements for qualification in the C-54 aircraft and in instrument flight as listed in the NATOPS for the C-54, OPNAVINST 3720.2B and OPNAVINST 3740.4C. It would also appear that the pilot in command,

who was a Category IV aviator in Service Group III, was not operating the aircraft in compliance with the provisions of OPNAVINST 3710.15D which requires an aviator in Service Group III to be accompanied by an aviator in Service Group I or II qualified in model. The term "qualified in model" is taken to mean qualified as Aircraft Commander.

(5) Finally, as a contributing factor in pilot error, is the apparent attempt of the pilots to obtain or maintain proficiency and qualification in several aircraft at the expense of not being completely proficient and qualified in the C-54.

b. Contributing causes. Other causes contributing to the accident are as follows:

(1) Weather. The low ceiling, turbulence and cross wind added to the approach and landing problems.

(2) Fatigue. Fatigue of the pilots is considered a minor factor. Fatigue however would occur not only from the duration of the flight but would be aggravated by the poor weather and probable anxiety or tenseness from missed approaches.

(3) Non-use of oxygen. There was no evidence that oxygen was used as required by OPNAVINST 3710.7A for night flights of aircraft above 5000 feet. However this is considered to be a minor factor.

(4) Mental overload. There is also the possibility of a mental and task overload. After making two approaches under poor weather conditions and failing to land after the second approach the pilot was faced with a decision as to whether to execute another missed approach procedure or make a low visibility approach to runway 05. When the tower gave the pilot an option to use either 05 or 14 another decision had to be made as to the best runway to use. And finally when the tower gave the pilot an option to turn right 360° or left 270° another decision had to be made. All these decisions had to be made on little or no previous planning, and reaction and orientation had to take place in a minimum of time which together with the operation of the aircraft may have been too much for the pilot to cope with.

5. COMNAV-3 concurs in the recommendations of the board and adds the following recommendations:

a. Since the pilot error factors involved are well known in accident prevention programs there are no recommendations to be made other than the publicizing of these errors and reemphasizing the salient points.

b. It is recommended that an investigation be made to determine if it is advisable for pilots to attempt to maintain qualification and proficiency in several models of aircraft when there is no operational necessity for it. It is believed at least that pilots should not be permitted to attempt to maintain proficiency and qualification in four engine aircraft and high performance aircraft at the same time.

c. It is recommended that a review be made of requirements for the use of oxygen. The present OPNAVINST 3710.7A requires the use of oxygen by crew members in non-pressurized aircraft on all flights when aircraft exceeds 10,000 feet during the day or 5,000 feet at night. The duration of flight, or time element, is not specified. Possibly the use of oxygen should be specified for lower altitudes when the flight is of long duration.

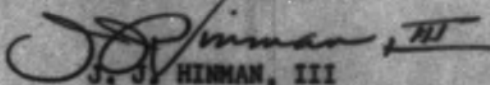
d. The NATOPS Program promulgated in OPNAVINST 3510.9B states that the Standardization Evaluator administers STAN/EVAL checks to the Standardization Instructors of units designated by Cognizant Commands. It is recommended that Cognizant Commands insure that STAN/EVAL checks are conducted at all units, and in particular BUWEPs activities, which have the model aircraft for which the Cognizant Command has NATOPS responsibility.

e. It is recommended that "in model" flight time requirements in the C-54 aircraft be reviewed as to adequacy and that the difference between the requirement of 250 hours contained in OPNAVINST 3740.4C and the 100 hours contained in the C-54 NATOPS be resolved. It is believed that the 100 hours in the C-54 would be adequate if the time were devoted primarily to NATOPS training. However, if a large part of this time were utilized in cross country flying, 100 hours would be considered inadequate.

f. It is recommended that flight training syllabuses be standardized with a minimum flight time specified for each requirement of the syllabus.

g. It is recommended that, under instrument flight requirements, a specific number of low visibility approaches be required periodically.

h. It is recommended that consideration be given to the establishment of a standard flight training and qualification jacket which would contain a permanent record of a pilot's checks, exams and qualifications. This would furnish excellent background and documentation of a pilot's training and experience for review by accident boards.


J. J. HINMAN, III

Copy to:
BUWEPsREP, Bethpage
NAS New York

PART 1 GENERAL

1. AIRCRAFT ACCIDENT BOARD APPOINTED BY CNAB, Third Naval District	2. SERIAL NO. WEEF 1-61A	3. DTG LOCAL OF MISHAP 061913H FEB	4. MODEL AIRCRAFT 0540	5. BUREAU NUMBER 56522
6. LOCATION OF MISHAP Peconic River Airport	7. TIME OF DAY RC Night	8. TIME IN FLIGHT 9 + 29	9. DAMAGE ALFA	10. FLIGHT CODE 2R2
11. VIA: CNAB Third Naval District CO. WEEF CNAB Eighth Naval District BUWPS	12. TYPE CLEARANCE IFR	13. AIRSPEED 100E	14. A/C WEIGHT 63,000 lbs.	15. ELEVATION AT TIME OF MISHAP 85
16. BRIEF DESCRIPTION OF MISHAP Collision, ground following visual W/O from ILS	17. TERRAIN Level	18. LAST MODEL, BUREAU, REPORTING CUSTODIAN AND DAMAGE CLASSIFICATION OF ANY OTHER A/C INVOLVED (Complete OPNAV Form 3750-1 for each A/C) None		

FACTOR		FACTOR		FACTOR	
<input checked="" type="checkbox"/> 1. PILOT ERROR IN TECHNIQUE/JUDGMENT	<input type="checkbox"/> 9. SERVICING PERSONNEL	<input checked="" type="checkbox"/> 17. WEATHER			
<input type="checkbox"/> 2. PILOT DEVIATION FROM NATOPS PROCEDURES	<input type="checkbox"/> 10. LANDING SIGNAL OFFICER	<input type="checkbox"/> 18. DESIGN AIRCRAFT			
<input type="checkbox"/> 3. PILOT INCORRECT OPERATION OF A/C SYSTEM	<input type="checkbox"/> 11. OTHER PERSONNEL (Specify)	<input type="checkbox"/> 19. DESIGN CREW EQUIPMENT			
<input checked="" type="checkbox"/> 4. PILOT OTHER (Specify) Fatigue	<input type="checkbox"/> 12. ADMINISTRATIVE	<input type="checkbox"/> 20. DESIGN OTHER (Specify)			
<input type="checkbox"/> 5. CREW	<input type="checkbox"/> 13. FACILITIES-RUNWAY, OVERBRUN TAXIWAY, FLIGHT DECK	<input type="checkbox"/> 21. ROLLING/PITCHING DECK ROUGH SEAS			
<input type="checkbox"/> 6. MAINTENANCE PERSONNEL	<input type="checkbox"/> 14. FACILITIES-NAVAIDS, LANDING AIDS (VCA, VCA, ILS, MISCON)	<input type="checkbox"/> 22. MATERIAL FAILURE/MALFUNCTION			
<input type="checkbox"/> 7. MAINTENANCE SUPERVISORY PERSONNEL	<input type="checkbox"/> 15. FACILITIES-CATALYT, ARRESTING GEAR (Ship or field)	<input type="checkbox"/> 23. UNDETERMINED			
<input checked="" type="checkbox"/> 8. SUPERVISORY OTHER (Specify) Qualifications	<input type="checkbox"/> 16. FACILITIES OTHER (Specify)	<input type="checkbox"/> 24. OTHER (Specify)			

1. NAME (Last, First, & middle -initial) MCBERT, Kyle H.	2. GRADE CAPT	3. SERVICE (b) (6)	4. BRANCH USN	5. AGE 45	6. SEX M	7. DATE OF BIRTH 21	8. RACE TRC	9. POSITION Left Seat	10. TYPE A
CO-PILOT (Specify & submit separate) BAKER, Robert J.	CIR	(b) (6)	USN	40	M	21	T2P	Right Seat	A

ITEM		ITEM	
11. ALL MODELS Prior to 6 Feb.	4345.5	17. CV LANDING DAY/NIGHT	ALL NA
12. ALL MODELS IN LAST 12 MONTHS	186.9	18. FCLP LANDING LAST 6 MONTHS DAY/NIGHT	ALL NA
13. ALL MODELS IN LAST 3 MONTHS	35.5	19. INSTRUMENT HOURS LAST 3 MONTHS ACTUAL/SIMULATED	ALL 5.8 / 4.8
14. ALL SERIES THIS MODEL	161.3	20. NIGHT HOURS LAST 3 MONTHS	ALL 3.5 / 2.3
15. ALL SERIES THIS MODEL LAST 12 MONTHS	174.4	21. TOTAL HOURS IN JETS (if not mishap) HELOS (if field mishap)	ALL NA
16. ALL SERIES THIS MODEL LAST 3 MONTHS	17.8	22. LAST PRIOR FLIGHT ALL SERIES THIS MODEL	DATE 31 Jan 64
23. DATE/GRADE LAST NATOPS STANDARDIZATION CHECK 6-12-63/Sat.		24. TYPE INSTRUMENT CARD 6-28-64	special

25. NAME (Last, First, & middle -initial) ABEL, Allen (n)	26. GRADE LT	27. SERVICE USN	28. BRANCH (b) (6)	29. AGE 3rd	30. POSITION P11
RAFF, Stephen E.	LT	USN	(b) (6)	A	Comp.
(b) (6)	AF1	USN	(b) (6)	Pax	Unk
				2PC	Unk

ORIGINAL

PART 1 GENERAL				
1. AIRCRAFT ACCIDENT BOARD APPOINTED BY CNAB, Third Naval District	2. SERIAL NO. NWEP 1-61A	3. DATE BLOCK OF MISHAP 061913R FEB	4. MODEL AIRCRAFT C540	5. BUREAU NUMBER 56522
6. TO: Commander, Naval Aviation Safety Center	7. VIA:	8. 11. TIME OF DAY	12. TIME IN FLIGHT	13. FLIGHT CODE
14. CLEARED FROM	15. TYPE CLEARANCE	16. AIRSPEED	17. A/C WEIGHT	
18. WRECK DESCRIPTION OF MISHAP	19. ELEVATION AT TIME OF MISHAP		20. LIST MODEL, BUREAU, REPORTING CUSTODIAN AND DAMAGE CLASSIFICATION OF ANY OTHER A/C INVOLVED (Complete OPNAV Form 3750-2 for each A/C)	

SECTION B. CONTRIBUTING FACTORS		
FACTOR	FACTOR	FACTOR
1. PILOT ERROR IN TECHNIQUE/JUDGMENT	9. SERVING PERSONNEL	17. WEATHER
2. PILOT DEVIATION FROM NATOPS PROCEDURES	10. LANDING SIGNAL OFFICER	18. DESIGN AIRCRAFT
3. PILOT INCORRECT OPERATION OF A/C SYSTEM	11. OTHER PERSONNEL (Specify)	19. DESIGN CREW EQUIPMENT
4. PILOT OTHER (Specify)	12. ADMINISTRATIVE	20. DESIGN OTHER (Specify)
5. CREW	13. FACILITIES-RUNWAY, OVERRUN/TAXIWAY, FLIGHT DECK	21. ROLLING/PITCHING DECK ROUGH SEAS
6. MAINTENANCE PERSONNEL	14. FACILITIES-NAV AIDS, LANDING AIDS (SCA, CCA, ILS, HIRAR)	22. MATERIAL FAILURE/MALFUNCTION
7. MAINTENANCE SUPERVISORY PERSONNEL	15. FACILITIES-CATAULT, ARRESTING GEAR (Ship or field)	23. UNDETERMINED
8. SUPERVISORY OTHER (Specify)	16. FACILITIES OTHER (Specify)	24. OTHER (Specify)

SECTION C. PERSONNEL DATA																																																																																																											
1. NAME (Last, first, & middle initial)		2. GRADE	3. DESIG	4. A/C	5. BRANCH	6. RANK	7. TOUR	8. BRANCH	9. POSITION	10. SEAT	11. OTHER																																																																																																
PILOT (at controls at time of mishap)																																																																																																											
CO-PILOT (Identify & submit separately page 1)																																																																																																											
BAKER, Robert J.		CDR	(b) (6)	USN	40	21	T2P	Right Seat	A																																																																																																		
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OP-45

ORIGINAL

AIRCRAFT ACCIDENT REPORT

OPNAV FORM 3750-1A (Rev. 3-63) Page 2

SPECIAL HANDLING REQUIRED in accordance with

Rev. 14, 2004 OF INSTRUCTION 3700.6, 11/01/04

ORIGINAL

1. DATE OF MANUFACTURE		7. FLIGHT HRS. SINCE ACCEPTANCE		2. NO. OF PARTS		4. HRS. SINCE LAST OVERHAUL		3. P. HRS. SINCE LAST OVERHAUL		5. LAST OVERHAUL ACTIVITY		7. TYPE OF LAST CHECK PERFORMED		6. FLIGHT HOURS SINCE LAST CHECK		9. DAYS SINCE LAST CHECK	
NA																	

1. ENGINE MODEL		7. ENGINE SERIAL NUMBER		3. FLIGHT HRS. SINCE ACCEPTANCE		4. NUMBER OF OVERHAULS		5. HRS. SINCE LAST OVERHAUL		6. LAST OVERHAUL ACTIVITY		7. TYPE OF LAST CHECK PERFORMED		9. FLIGHT HOURS SINCE LAST CHECK		10. DAYS SINCE LAST CHECK	
(1)																	
(2)		NA															
(3)																	
(4)																	

1. COMPONENT INVOLVED NOMENCLATURE		2. MANUFACTURER'S PART NUMBER		3. TOTAL HRS. ON PART		4. NO. OF OVERHAULS		5. HOURS SINCE LAST OVERHAUL		6. OVERHAUL ACTIVITY		7. HRS. SINCE REQUESTED		8. SER. NO. FOR AMPLIFIER	
(1)															
(2)		NA													
(3)															
(4)															

1. PARTS REPAIRED		2. PARTS REPLACED	
PART NUMBER	NOMENCLATURE	PART NUMBER	NOMENCLATURE
NA			

JET ENGINE FLAMEOUT (Include intentional securing to prevent engine damage)							
AT TIME OF FLAMEOUT	1. ALTITUDE	2. IAS	3. RPM	4. EGT	5. MANEUVER AT TIME OF FLAMEOUT	6. FUEL FLOW	7. ALTITUDE
8. G FORCES	9. RELIGHT	10. ALTITUDE		11. IAS	12. MAX EGT	13. FUEL CONTROL	14. NO. RELIGHT ATTEMPTS
	<input type="checkbox"/> ATTEMPTED <input checked="" type="checkbox"/> ACCOMPLISHED					<input type="checkbox"/> PRIMARY <input type="checkbox"/> MANUAL	
15. INTENTIONAL SECURE	15. ENGINE SYMPTOMS			16. CAUSE OF SYMPTOMS			

RECIPROCATING ENGINE FAILURE							
17. ALTITUDE	18. IAS	19. ALTITUDE	20. RPM	21. MAP	22. TORQUE/SHIP	23. FUEL FLOW PRESSURE	24. OIL PRESSURE
		NA					
25. INTENTIONAL SECURE	25. ENGINE SYMPTOMS			26. CAUSE OF SYMPTOMS			

F. OTHER REPORT	
1. AMPLIFIER SERIAL NUMBER	
2. DIR MESSAGE REQUEST DATE-TIME-GROUP	
3. OTHER	
4. NA	

ORIGINAL

AIRCRAFT ACCIDENT REPORT

OPNAV FORM 3750-1A (Rev. 3-63) Page 3

SPECIAL HANDLING REQUIRED in accordance with

Para. 66, OPNAV INSTRUCTION 3750.6, effective 1-64

ORIGINAL

1. EQUIPMENT INVOLVED <input type="checkbox"/> CATAPULT <input type="checkbox"/> ARRESTING GEAR		2. PRESSURE SETTING		3. WIND OVER DECK		4. RELATIVE WIND		5. APPROACH/END SPEED	
6. HARB NUMBER		7. MODEL NUMBER		8. LOCATION OF SHIP NA		9. LAUNCHING BRIDLE AND BRIDLE ARRESTER			
10. CATAPULT/ARRESTING GEAR BULLETINS OR MONOGRAMS USED									
11. This portion shall be completed whenever (1) an aircraft accident involves arresting gear barrier and/or barricade equipment, or (2) an aircraft accident involves malfunctioning of arresting gear, barrier and/or barricade equipment. Incidents or routine damage to cables, weldings and other expendable equipment need not be reported herein.									
G. SHIPS DATA	ENGAGED	12. DECK RUNOUT (FEET)	13. RAM TRAVEL (INCHES)	14. CONTROL VALVE SETTINGS CONSTANT PRESSURE DOVE (P.S.I.) RATIO		15. ACCUMULATOR PRESSURE (PSI)		16. COMMENTS (For cable failures specify no. loadings and months in service)	
	DECK PENDANT								
	DECK PENDANT			NA					
	BARRIER/BARRICADE								
FOR ACCIDENTS ABOARD CARRIERS (complete on pilot)									
1. DATE DEPLOYED COMUS		3. DAY HOURS/LANDINGS SINCE DEPLOYMENT		4. DAY HOURS/LANDINGS LAST 30 DAYS					
2. NO. DAYS OPERATING PERIOD		5. NIGHT HOURS/LANDINGS SINCE DEPLOYMENT		7. NIGHT HOURS/LANDINGS LAST 30 DAYS					
5. FIRST HOURS LOGS/LOG SINCE DEPLOYMENT ACTUAL/SIMULATED		6. NIGHT HOURS/LANDINGS SINCE DEPLOYMENT		7. NIGHT HOURS/LANDINGS LAST 30 DAYS					
WEATHER AT SCENE OF MISHAP									
1. CEILING 500'	2. VISIBILITY 5 mi	3. RELATIVE WIND DIRECTION AND VELOCITY 280°-300°/15-30 kts		4. TEMPERATURE SURFACE OUTSIDE AIR 100°F		5. DEW POINT NA		6. ALTITUDE SETTING 29.01	
7. OTHER WEATHER CONDITIONS (include night, icing level, sea state, density altitude, as appropriate) Let rain/fog									

PART III ADDITIONAL INFORMATION				
PART	SECTION	ITEM	1. REMARKS	2. COPY DISTRIBUTION
				200 COMNAVSAFECH DIRECT (AAR) 100 BUWEPs DIRECT (AAR) 1cc COMNAV EIGHT 1cc B-1 R El Segundo, Cal. 1cc CO, NMEF 1cc CNARESTRA
COST DAMAGE TO:			3. GOVERNMENT PROPERTY None	4. PRIVATE PROPERTY None
5. DATE SUBMITTED TO CO MAR 11 1964				
PART IV SIGNATURES OF THE BOARD				
1. SEARCH MEMBER		2. BOWERS REP		3. NAS-NY
(b) (6) (b) (6)		Bothpage		VR/AFTO
CAPT, USN		UNIT BULLET		UNIT BULLET
(b) (6) (b) (6)		(b) (6)		NAS-NY
CAPT, USN (MC)		NAS-NY		ASO
		LCDR, USNR		UNIT BULLET

* When preparing Incident and Ground Accident reports, items indicated by an asterisk in the upper right hand corner must be filled in. Other items considered appropriate should also be filled in.

ORIGINAL

PART V THE ACCIDENT

1. C-54Q BuNo 56522 departed Kirtland AFB at 1327Z enroute Peconic River Airport, Calverton, L.I., N.Y. with an intermediate stop at Bunker Hill AFB, Peru, Indiana. Following a routine flight to Bunker Hill, 56522 landed at 1902Z and departed at 2019Z.

2. While enroute, in the vicinity of Robbinsville VORTAC, Navy 56522 was informed that Peconic ILS was out of service and Peconic weather was partial obscuration, measured 500 overcast, $1\frac{1}{2}$ miles visibility in light rain and fog, wind SE 26 kts. Later, upon radio contact with Peconic tower for a VOR approach, Navy 56522 was informed that Peconic ILS was back in operation. Navy 56522 then contacted NYATC, requested and received clearance for an ILS approach.

3. Navy 56522 again established radio communications with Peconic Tower when inbound to the middle marker. This approach was missed and the tower cleared 56522 for a second ILS approach. When 56522 reported over the outer marker inbound he was cleared to land on runway 05. The tower reported wind from 100 degrees, 15 to 20 kts. Tower personnel sighted the aircraft as it broke contact over the middle marker.

4. Upon reporting contact the pilot advised the tower that he was experiencing too much drift and would go around. The tower offered a change in runway to reduce cross wind. This change was accepted by Navy 56522 and lights were switched from runway 05 to runway 14. The aircraft then commenced a right turn after wave-off. The aircraft descended in this turn and struck the ground after completing approximately 100° of turn.

PART VI DAMAGE TO AIRCRAFT

1. Approximately sixty feet prior to initial impact tree tops were sheared and splintered. Aircraft configuration was 15° flaps and landing gear up. Initial contact was just below the lip of a small ground rise in a flat attitude and slightly right wing down. Ground contact was made with the right wing and fuselage, sluing the aircraft clockwise. On initial contact the starboard wing and nose section started breaking up with both starboard engines tearing free and preceding the rest of the wreckage. The forward fuselage continued breaking up spilling its contents along the right side of the wreckage path.

2. The number two engine contacted the ground approximately forty feet beyond the initial impact point with the number one engine making ground contact approximately forty feet beyond number two engine.

3. As the main wreckage continued up the impact path, the left wing broke at the fuselage sluing counterclockwise. The number two engine came to rest under the left wing about the number one engine nacelle. The tail section, still attached to the fuselage by the control cables came to rest on top of the forward fuselage section in a jack-knifed position.

4. The right wing split laterally spilling fuel along the impact path causing a flash fire engulfing the entire area and lasting for a brief period of time. The number two engine continued to burn as did the port landing gear. Another fire continued in the center of the main wreckage area doing extensive damage to the forward fuselage and crew compartment.

-1-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E NWIF AAR 1-64A

PART VII INVESTIGATION AND ANALYSIS

A. General

1. Investigative personnel were on the scene of the accident within 40 minutes and the investigation commenced immediately. Witnesses were interviewed that night at the crash site except for Mr. Douglas, whose statement was taken the next day. The AAR Board was formally convened on 7 February 1964, when examination of real and testimonial evidence was continued. Both survivors, AEL (b) (6) and S/Sgt (b) (6) were interviewed by the Board on 8 and 10 February.

2. Navy 56522 departed Kirtland AFB at 1327Z on 6 February on an IFR flight plan for Bunker Hill AFB, Peru, Indiana. CDR BAKER was pilot and LCDR STOLPE was co-pilot for the take-off and landing. Enroute, Captain MORRIS relieved CDR BAKER for approximately two (2) hours and LT ABLE relieved LCDR STOLPE for approximately one hour. S/Sgt (b) (6) was a passenger on this flight but was not listed on the DDL75 because he arrived late. Upon arrival at Bunker Hill at 1902Z, 1,015 gallons of 115/145 fuel was taken aboard. LCDR (b) (6) and AN JARVIS terminated at Bunker Hill and LT RALPH was added to the manifest as a passenger. Based on fuel and passenger load, weight of the airplane at the time of crash was computed to be 63,000 pounds, with an index of 26.1% of MAC which is well within limits.

3. Navy 56522 departed Bunker Hill AFB at 2019Z for Peconic River Airport. Captain MORRIS was in the pilot seat and CDR BAKER in the co-pilot seat and they remained at these positions for the remainder of the flight. AEL (b) (6) was the plane captain for this portion of the flight and occupied the jump seat between the pilots. At the time of the crash, the remaining personnel were located as follows: LT ABLE was in the pilots compartment standing behind (b) (6). S/Sgt (b) (6) was in the compartment normally occupied by the fuselage fuel tanks. This section had the tanks removed and was converted to a passenger compartment by installing eight (8) high density, passenger seats. SEITZ and CALDWELL were in the cargo compartment, positions unknown. The position of LT RALPH was unknown except that he was not in the passenger compartment. The most likely place for him would be somewhere in the pilots compartment.

4. The flight was uneventful until reaching the New York area. 56522 was cleared from Bunker Hill AFB at 9,000 feet. At 2235Z over Ravine, Pa., 56522 was cleared by New York Center to 8,000 feet. At 2304Z, New York Center reported the Peconic ILS out of service, weather dropping rapidly; current weather 500' overcast, visibility 1½ miles. 56522 said that if Peconic was below minimums for a VOR approach, they would proceed to NAS, Quonset Point and requested Quonset weather.

5. At 2328Z in the general vicinity of Southgate Intersection, 56522 was cleared to descend to 4,000 feet. They were further cleared to 3,000

feet and at 2334Z reported passing thru 4,000 feet. At 2335, the aircraft was cleared for a VOR approach and cleared to Peconic Tower. At 2336, 12 miles south of Riverhead, 56522 contacted Peconic Tower, intending to make a VOR approach. The weather was given as partial obscuration, measured 500' overcast visibility $1\frac{1}{2}$ miles with light rain and fog. Runway 14 was the duty runway. 56522 was then notified that the ILS was back in operation (exact time unknown), and they elected to continue the VOR approach. The transmission on the Peconic tape was cut off at this time and contact was lost with 56522 for a short time. During this time, 56522 left Peconic Tower frequency and contacted New York Center at 2342Z requesting an ILS approach to Peconic. 56522 reported 5 miles west of Riverhead VOR at this time. New York Center granted this request and at 2344Z, 56522 returned to Peconic Tower, stated they had been cleared for an ILS approach and reported inbound to the middle marker.

6. Peconic Tower turned the lights on for Runway 05 and reported the wind was 100/18-25 knots. The first pass resulted in a missed approach and 56522 reported "just about overhead". A missed approach was executed except that a left turn to an inbound heading of 140° to the middle marker was made rather than the correct missed approach procedure of a climb to 1,000 feet on the NE course of the ILS, then a left climbing turn to 1,800 feet and proceed direct to Peconic Radio Beacon. 56522 was cleared for a second ILS approach and the wind was reported as 120/20-30 kts. 56522 then reported outbound just passed the middle marker and again inbound at the outer marker. The wind was then reported as 100/15-20 kts.

7. 56522's next report was contact but no landing could be made because they "...getting too much wind; we're drifting". The Tower observed 56522 breaking contact in a steep descent just passed middle marker. Peconic Tower then suggested using Runway 14 and when 56522 concurred, the tower switched runway lights from 05 to 14. At this time, Runway 14 was directly off the starboard beam of 56522. Peconic Tower suggested a 270 left or a 360 right to line up with Runway 14. 56522 executed a right descending turn and struck the ground $\frac{1}{2}$ mile abeam Runway 14/32 on a heading of 153° . Two very significant factors were revealed by the investigation. Based on witness statements, including the testimony of AEL (b) (6) there was no significant addition of power following the wave-off decision up to the time of crash and seconds before the crash CDR BAKER made the following transmission in an excited voice, "Watch your head, Jack; you're 300 feet". The latter statement was taken as a warning for Captain MORRIS to watch ahead. This warning came after the following events as analyzed by the Board. During the turn, prior to the crash, Captain MORRIS was concentrating his attention on maintaining visual contact with the runway by looking out the co-pilots window. He inadvertently lost altitude prompting CDR BAKER's warning which occurred too late to effect complete recovery. 56522 struck the ground in a near flat attitude with an angle of impact of approximately 10 degrees.

8. Crash-Rescue equipment was on the scene within minutes and the fire was extinguished except for burning magnesium. Most of the fuel fire extinguished itself and very little of the surrounding area was burned. There were three survivors who were taken by the Air Force helicopter to the Central Suffolk Memorial Hospital at Riverhead. Four bodies were removed and taken to Suffolk County AFB. LT RALPH, a survivor, died approximately 5 hours later. The last body was recovered in the main body of the wreckage about 7 hours after the crash by an organized search party of Air Force Personnel.

9. A wreckage diagram was prepared and parts identified. During interview, AEL (b) (6) stated that there was no malfunction of the engines or controls. From his statement, the observations of witnesses, examination of the wreckage, and the tape recordings, the Board concluded that there was no material failure or malfunction.

10. The airspeed indicators were found but it was not possible to determine the impact airspeed. The Board considered the speed to be approximately 100 kts. Cockpit altimeters were found and the correct altimeter setting of 29.01 was set in each. It was not possible to determine the indicated altitude at impact.

11.a. The following records were received from the NWEF pertaining to the crew of 56522:

Capt. Morris

Transport Plane Commander Request (C-54)
Transport Plane Commander Designation (C-54)
Letter of certification of C-54 Standardization Check
Instrument Card Request Form, dated 6/6/63
Instrument Exam answer sheet taken 5/31/63, 8½ errors out of
56 answers, grade 3.4
Annual Flight Time Reports, Fiscal 62 & 63
Medical Clearance Form, NAVMED 1381 dated 27 July 1962
S-2A Check-out Certification, 11/29/63
T-1A Check-out Certification, no date

Cdr. Baker

Transport Second Pilot Designation, dtd 8/2/63 (unsigned)
Instrument Card Request Form, dated 9/10/63
Instrument Examination Answer Sheet, taken 9/3/63, 5½ errors
out of 37 answers, grade 3.5
Annual Flight Time Report, Fiscal 63
S-2A Check-out Certification, 8/5/63
A-1E Check-out Certification, 11/29/63

Seitz, ADRI - Letter from squadron stating he reported on 7/14/61, had a total of 795.8 hours in the C-54 since 1/30/62 and had completed requirements for designation as an aircrew member.

(b) (6)

AEI - Letter from squadron stating he reported on 8/9/60, had a total of 376.4 hours in the C-54 since 9/9/62 and had completed requirements for designation as a flight engineer.

b. The following records were not received from the NWEF:

Capt. Morris - NATOPS Standardization Check Form.

Cdr. Baker - NATOPS Standardization Check Form
Medical Clearance Form - however last annual physical on 10/10/63 was satisfactory.

Seitz, ADRI - No records

(b) (6)

AEI - No records

12 During a telephone interview with LCDR (b) (6) it was determined that actual instrument conditions were encountered immediately after take off from Kirtland and during approach at Bunker Hill. LCDR (b) (6)

12 cont.

further stated that all flight instruments were functioning normally and that Captain Morris, when not in the pilot seat, was observing from a position just aft of the co-pilots seat. To his knowledge, Captain Morris did not rest during this leg.

13. At 2304 Navy 56522 requested Quonset Point weather which was above minimums at 500 broken, 1000 broken, 1500 overcast, visibility 5 miles with light rain. Peconic weather was also above minimums and the visibility had been improving since weather was reported to 56522 upon initial contact with Peconic towers. This improved visibility was never reported to Navy 56522. Light rain and fog prevailed however, restricting forward visibility, especially with the landing lights on as reported in Mr. Douglas' statement.

14. A C-54 from NAS New York was used by the Board to try and duplicate the approach and wave off pattern of 56522. The gross weight of this aircraft was about 55000 pounds. The three control tower operators that were on duty the night of the accident were positioned in the control tower at Peconic River for this demonstration. Radio contact was established and an ILS approach was started, following as closely as possible the flight path of 56522 just prior to the crash. The weather for the demonstration was sky clear and visibility better than 10 miles. Wind was 190/15kts, gust to 20/28kts during this flight. The ILS minimums at Peconic River are 300 feet and 3/4 mile visibility straight into runway 05. The aircraft was at 600 feet on the localizer and purposely remained high on the glide path. As the aircraft neared the position the witnesses said 56522 broke contact the aircraft was nosed over for a steep rate of descent. Just as the nose dropped below the horizon the middle marker started to flash. This descent was continued to the end of the runway. The aircraft was set up with 2300 rpm and 23" MP, flaps at 30° and gear down and locked. The aircraft was allowed to drift to the left and away from the approach end of the runway. At about 25 feet altitude a wave off was taken and gear was raised, flaps to 15°. No power was added, airspeed was at 140 kts as wave off was commenced. The aircraft paralleled the runway (05) and a gradual climb was started. Distance to the left of runway 05 and altitude was governed by the witnesses in the control tower. When the altitude was reached that looked about the same as 56522 had reached the aircraft was at 200 feet and the airspeed had fallen to 110 kts. At the apex of runway 05 and 14 a turn was started to the right and steepened to what appeared to be the same as observed by the witnesses in the tower. At this point power was added to the aircraft. The angle of bank was 45° and air speed was 95 kts. A 90° turn was completed and the wings rolled level and nose dropped. The wreckage of 56522 was directly below. weight of C-54 from NAS New York used in this flight was approximately 55,000 pounds.

15. The crosswind was 50 degrees at a 15.2 knot component which would have been well within safe limits for landing on either runway 05 or 14.

B. PERSONNEL FACTORS

1. Pilots

a. Captain MORRIS was designated a transport plane commander by the Commandant, EIGHTH Naval District on 2 July 1963 and an entry was made in his pilot's log book by (b) (6). At this time, Captain MORRIS had a total of 90.4 hours in the C-54, accumulated since September 1962. Of this time only 9.0 hours was logged as local training, the remainder being accumulated on cross-country flights. Only the latest pilot's log book was available to the Board dating back to June 1956 and bringing forward a total time of 3332 hours. OPNAVINST 3740.4C requires a minimum of 250 hours pilot time in model. Prior to this fatal flight, Captain MORRIS had accumulated a total of 161.3 hours in C-54 aircraft. Captain MORRIS was issued a special instrument rating on 8 May 1963, having maintained a standard instrument rating until that time. No instrument or local standardization check forms were in Captain MORRIS' jacket however a statement has been submitted certifying completion of both checks. No Line Standardization Check Flight was recorded. Captain MORRIS had completed three actual instrument approaches in the C-54 with the last approach recorded on 20 November 1963.

b. CDR BAKER was designated a Transport Second Pilot on 2 August 1963 by Captain MORRIS, the Commanding Officer, NWEF, and entry was made in his pilot's log book on 27 August 1963. At this time, the log book indicated CDR BAKER had a total of 95.4 hours in the C-54, accumulated since January 1963. Only the latest pilot's log book was available to the Board dating back to July 1961 and bringing forward a total of 4,098 hours. Prior to this flight, he had accumulated a total of 154.1 hours in the C-54. CDR BAKER was issued a standard instrument rating on 10 September 1963. The last actual C-54 instrument approach recorded was on 15 July 1963, his last actual approach was made in an S-2A on 13 November 1963.

c. Although maximum crew duty time was not exceeded, fatigue is considered a contributing factor since Captain MORRIS awakened about 0500T and was in the air a total of 9.5 hours without any significant rest. He was at the controls approximately 5.5 hours.

d. Another contributing factor was the weather as it created an additional burden on the pilot at the end of a long flight. Cross-wind added to the difficulty during the landing approach.

e. The Medical Officer's Report revealed no evidence of physical incapacitation of either pilot prior to the crash.

2. Maintenance, Servicing and Ground Handling Personnel

Investigation did not reveal any such factors contributing to this accident or pertinent to prevention of similar accidents.

3. Supervisory

a. Investigation reveals a general lack of compliance with provisions of OPNAV instructions in that, (1) Captain MORRIS had not attained the minimum requirements for transport plane commander at the time of designation; (2) Qualification of crew members was not adequately documented to assist the Board during investigation, NWEF provided certifying statements.

C. MATERIAL FAILURES OR MALFUNCTIONS

An inspection of the aircraft log books, check sheets and past yellow sheets indicated no outstanding maintenance discrepancies. All applicable technical orders, service changes and general engine bulletins had been complied with. The aircraft was in a sound mechanical condition and all components were operating normal at the time of the accident. This is also verified by (b) (6), AEL, the surviving plane captain who was occupying the jump seat on impact. An emergency did not exist and aircraft maintenance is not considered a contributing factor in the cause of this accident.

D. FACILITIES

1. There were no facility factors involved in this accident.

2. The Peconic ILS was out of service from 2247Z to 2326Z due to weather effects. There was no actual discrepancy discovered; when the maintenance man arrived to check the equipment, whatever had caused the trouble was no longer in evidence. The trouble could have been caused by rain shorting out the electrical antennas. The ILS system was flight checked at 0500Z and again in the morning. All components flight checked were found to be within the prescribed tolerances as specified in sec.217 of the U. S. Standard Facility Flight Check Manual.

E. NATOPS

1. In accordance with paragraph 120h(2), page 1-4 the following currency requirements were not completed within the last 3 month period:

a. Captain MORRIS

One night landing
One engine-out approach
One engine-out landing
One engine-out wave-off
One non-radar approach

b. CDR BAKER

Two night landings
One GCA approach
One engine-out approach
One engine-out landing
One engine-out wave-off
Two non-radar approaches

2. 100 hours flight time in model are required for designation as Aircraft Commander. A discrepancy exists between NATOPS and OPNAVINST 3740.4C. The Board has not made a recommendation to correct this discrepancy in accordance with OPNAVINST 3510.9.

PART VIII CONCLUSIONS

1. The cause of this accident was failure of the pilot to maintain sufficient altitude while executing a low visibility approach at Peconic Airport and flying into the ground.

PART IX RECOMMENDATIONS

✓ 1. During low altitude operation of multi-piloted aircraft in marginal conditions, adopt positive procedures to insure that one pilot monitor the instruments at all times.

✓ 2. Recommend NWEF review air crew qualifications records and procedures for adequacy and completeness and insure that all crew qualifications are met prior to designation.

✓ 3. Recommend BuWep conduct a review of R&D activities under their management cognizance to determine degree of progress towards completion of NATOPS requirements where applicable.

C54

NASC/er
Ser 55/474
Apr 6 1964

URGENT

SPEEDLETTER

From: Commander, U. S. Naval Aviation Safety Center
To: Commanding Officer, Naval Weapons Evaluation Facility,
Albuquerque, New Mexico

Subj: NWEF Albuquerque msg 070700Z of Feb

Subject message concerns AAR.

Advance copies not received.

Request status of report.

(b) (6)

By direction

50
Footed

U. S. NAVAL WEAPONS EVALUATION FACILITY
KIRTLAND AIR FORCE BASE
ALBUQUERQUE, NEW MEXICO, 87117

FF12/JBC:fed
13000
Ser AO/ 543

8 APR 1964

SPEEDLETTER

From: Commanding Officer, U.S. Naval Weapons Evaluation
Facility, Kirtland Air Force Base, Albuquerque
New Mexico

To: Commander, U.S. Naval Aviation Safety Center,
Norfolk, Virginia

Subj: Message 070700Z of FEB concerning NWEF accident

Ref: (a) Commander, NASC spdltr ser 53/474 of 6 Apr 64

Subject message originated by NAS New York vice NWEF and
included NASC as addressee.

All copies of the AAR were received from CNAB Third Naval
District on 31 March and will be distributed on 9 April.

(b) (6)

Operations Officer



File *[initials]*

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NASC/hy
1 June 1964

MEMORANDUM

From: LCDR (b) (6) USN
To: Commander, U. S. Naval Aviation Safety Center
Via: (1) Head, Accident Investigation Department *RSW*
(2) Chief of Staff

Subj: NASC Investigation 26-64 concerning C-54Q BUNO 56522 accident occurring 6 February 1964 near Peconic River Airport, Calverton, Long Island, New York

Ref: (a) C-54 NATOPS Manual
(b) OPNAVINST 3740.4C

Encl: (1) Statement of Alfred T. Douglas

1. C-54Q BUNO 56522 assigned to Naval Weapons Evaluation Facility (NWEF) Kirtland AFB, New Mexico, piloted by CAPT K. H. MORRIS, USN and CDR R. J. BAKER, USN, crashed on 6 February 1964 at 1913R, on Peconic River Airport, Calverton, Long Island, New York and sustained ALFA damage. There were six crewman and two passengers aboard at the time of the mishap. Five of the crewmembers and passengers were fatally injured on impact. There were three initial survivors, the plane captain and the two passengers. One survivor expired a short while later. The plane captain and the other passenger received critical injuries. There was no damage to private property. One civilian, Alfred T. DOUGLAS, passing by at the time of the accident, was slightly injured during his efforts to rescue survivors (enclosure (1)). Mr. DOUGLAS was instrumental in rescuing the 3 survivors.

2. The investigation revealed the following:

a. The aircraft departed Kirtland AFB, New Mexico at 0629T 6 February 1964 for Bunker Hill AFB, Indiana. During this first 5 hour 35 minute leg the Plane Commander, CAPT MORRIS, and the co-pilot, CDR BAKER, traded off pilot duties with two other pilots on board, LCDR (b) (6) and LT ABEL. At Bunker Hill AFB, LCDR (b) (6) deplaned and two passengers were picked up, SGT (b) (6) USAF and LT S. E. RALPH, USNR. After one hour and seventeen minutes of ground time during which the aircraft was fueled and a flight plan filed, the C-54Q departed Bunker Hill AFB for Peconic River Airport. CAPT MORRIS occupied the left seat and CDR BAKER occupied the right seat throughout this flight. On arriving in the vicinity of Peconic, New York, Air Route Traffic Control (ARTC) advised BUNO 56522 that the Peconic weather was 500 feet overcast, 1 1/2 miles visibility in rain and fog, and also that the ILS was down. Since the weather as given was at VOR approach minimums the ARTC controller also asked the pilot his intentions. The reply was to the effect that a VOR approach to runway five would be attempted and if unsuccessful, the aircraft would proceed to its alternate. Following this exchange, ARTC cleared the aircraft for a VOR approach and to the Peconic Tower frequency. On switching frequency to the Peconic Tower, 56522

was again given the weather, 500 feet overcast, 1½ miles visibility with light rain and fog, altimeter 29.01 and the surface winds as SE 26 knots. About one minute later the aircraft was informed that the ILS was back in operation. 56522 replied that a VOR approach would be continued. For seven minutes following this exchange, Peconic Tower could not contact 56522. 56522 then called Peconic Tower and informed the tower controller that he had been in contact with NY ARTC and was now cleared for an ILS approach and was approaching the middle marker. 56522 continued inbound on an ILS approach. The aircraft did not make visual contact on this approach and returned outbound for another approach. At the outer marker inbound, the aircraft was given the surface winds, 15-20 knots from 100 degrees, and cleared for an ILS straight in approach to runway 5. The approach was continued and the aircraft became contact at the middle marker. 56522 then reported that a landing on runway 5 could not be accomplished due to the crosswind. The aircraft waved-off and paralleled runway 5 having drifted about five-hundred feet downwind (West) of the runway. The tower controller offered to turn the lights on runway 14 up to landing brilliance. 56522 agreed since this would put the landing a little more directly into the wind line. Although the tower controller did not inform 56522 of the fact, the visibility had improved to 5 miles by this time. As 56522 approached the upwind end of runway 5, the lights on runway 5 were dimmed and the lights on runway 14 were illuminated. As this time the tower controller offered 56522 a choice of a 270 degree left turn or a "360 right turn" (from the aircrafts heading at this time a 450 degree turn would be required to effect a landing on runway 14). The aircraft entered a right turn at about 300 feet. After about 135 degrees of turn the aircraft contacted the ground inside the field boundary ½ mile from the upwind end of runway 5. Just before the aircraft contacted the ground a transmission from 56522 was received in Peconic Tower to the effect, "Watch your head, Jack; we're at 300 feet," in an excited voice.

b. CAPT MORRIS was the Plane Commander (PC) and the Commanding Officer, Naval Weapons Evaluation Facility. He was designated a PC for C-54 aircraft by Commander, Naval Air Bases Eight on 2 July 1963 and held a special instrument card. The flight records for CAPT MORRIS were not complete. His current log-book commences in January 1956. CAPT MORRIS' flight experience was: 4351 hours all models; 192.9 hours all models in the last 12 months; 41.4 hours in all models last 3 months; 163.9 hours all series this model; 120.3 hours all series this model last 12 months; 27.6 hours all series this model last 3 months; 14.6 hours instruments last 3 months; last flight all series this model 31 January 1964; 5.9 hours flight time in the last 24 hours. CAPT MORRIS was considered to be a second tour VR pilot at NWEF in PC training in the C-54. His letter designating him a PC was issued with less than a total of 100 hours in C-54 aircraft since January 1956. CAPT MORRIS did not meet the NATOPS currency requirements for C-54 type aircraft, reference (a), in that he was short one non-radar approach and one landing for the previous 3 consecutive months. Since September 1962, CAPT MORRIS had completed 30 C-54 instrument approaches, 4 of which were in actual IFR conditions. CAPT MORRIS' last actual instrument approach in C-54 aircraft was made in April 1963. It was determined that CAPT MORRIS was in actual control of the aircraft at the time of the mishap.

The co-pilot, CDR BAKER, was designated a C-54 Third Pilot (3P) on 27 August 1963 and held a current standard instrument card. CDR BAKER's pilot experience was: 4509.7 hours all models; 248.0 hours all models last 12 months; 63.5 hours all models last 3 months; ~~166.8~~ hours all series this model; 161.6 hours all series this model last 12 months; 38.1 hours all series this model last 3 months. CDR BAKER did not meet NATOPS currency requirements, reference (a), in that he was short one GCA, one non-radar approach and one night landing in C-54 type aircraft in the previous three months. Since July 1961 CDR BAKER has made 27 instrument approaches and 2 of them were under actual IFR conditions. His last actual IFR approach in a C-54 was on 15 July 1963.

c. C-54Q, BUNO 56522 was accepted by the Navy on 19 July 1945, and had flown 20,659.3 hours since acceptance. The aircraft is in the progressive maintenance program in its third cycle, fourth period. Hayes Aircraft Corporation performed the last progressive maintenance work 7 months prior to this accident. A second intermediate check was performed 54 days prior to the accident. The aircraft had accumulated 150.8 hours since this last check.

d. Engine failure/malfunction was not a factor in this accident.

3. Analysis of the wreckage indicated the following:

a. The aircraft contacted the ground in a 5 degree nose down 5 degree right wing down attitude at an estimated airspeed of 130 knots. Ground scars indicated that all four engines were developing moderately high power, estimated at 30 inches manifold pressure, 2300 revolutions per minute, on impact.

b. On initial contact 3 feet below the bank of a gully, the starboard main fuel cell ruptured spraying fuel forward along the wreckage path. The aviation gasoline ignited and an explosion similar to a napalm bomb ensued.

c. The starboard wing separated from the aircraft and continued along the wreckage path.

d. The nose section of the fuselage forward of the main spar fractured and broke up along the right side of the wreckage path strewn occupants and personal gear.

e. Survivors of the accident were located in the nose section and passenger compartment at the time of the accident. The plane captain, (b) (6) (b) (6) was seated in the jump seat between the pilots without a seat belt. (b) (6) was critically injured. The other survivor, (b) (6) S/SGT, USAF, was seated in the passenger compartment facing aft with seat belt in place. (b) (6) was severely burned in attempting to evacuate from the remaining burning fuselage section after it came to rest.

f. The flight orderly, R. W. CALDWELL, ADJAN, was standing in the passenger compartment at the time of the accident. He was fatally injured and his body was not found for several hours due to location under major portion of the wreckage.

g. All other crewmen were located in the crew compartment forward of the passenger compartment. With the exception of (b) (6) all were fatally injured. LT Stephen E. RALPH, USNR, the other passenger was also in the crew compartment and survived for a very short time after arriving by helicopter at the Central Suffolk County Airport.

h. Altimeters in the cockpit were set at the correct barometric pressure as given by Peconic Tower at the time of the accident.

i. There was no indication of control malfunction/failure.

j. The surviving plane captain stated that he did not note, nor was aware of any failure or malfunction of any system or component prior to the accident.

k. There was no discrepancy reported by Federal Aviation Agency flight check of the ILS approach on 7 February 1964.

l. Weight and balance information available indicated that the aircraft was well within tolerances of percent Mean Aerodynamic Chord. Based on fueling data at the point of departure and at bunker Hill AFB the gross weight of the aircraft was calculated to be 63,100 lbs at the time of the accident, which is well below the maximum gross weight allowable.

m. Flaps were set at 15 degrees on impact. Landing gear was in the up position and landing lights were extended and on at impact.

n. Aircraft maintenance history (yellow sheets) that were carried aboard the aircraft were not recovered. Interrogation of the plane captain, (b) (6) revealed that there were no outstanding discrepancies that could contribute to the cause of the accident.

4. Conclusions:

a. The most probable cause of this accident was pilot factor. In view of the relatively limited experience in the aircraft of the pilot and co-pilot, the long elapsed time since their last actual instrument approaches, and the weather conditions, the pilot apparently attempted to remain contact under marginal weather conditions.

5. Discussion:

a. The designation of CAPT MORRIS as a PC by CONNABS EIGHT may be criticized in the light of the grave outcome. However, a more objective

view could hardly criticize COMNABS' for designating CAPT MORRIS a PC. A senior officer with the experience, maturity and demonstrated judgement that is inherent in the rank of Captain must certainly be given credit for these qualities. There is no formula for determining these qualities. Confidence in the naval promotion system, service reputation and many other less tangible factors endorse COMNABS action in designating CAPT MORRIS a PC.

b. Reference (b) has been reviewed by this writer and found to clearly set forth the requirements for qualification for command of fixed-wing multi-piloted aircraft. However, any and all of these requirements may be voided by applying paragraphs 6 asterisk note, 6.e, 8.c and 8.e of reference (b). This instruction (reference (b)), therefore, sets forth policy and guidance, but does not make the requirements mandatory. Another view that should be stated as regards reference (b), is the one from the vantage point of command. Without command prerogative, which is amply provided for in reference (b), the Commanding Officer of any unit would be severely curtailed.

6. Recommendations:

a. None

b. In the event Commander, NAVAVNSAFECEN desires to recommend that reference (b) be revised, the originator will re-submit this report to reflect the desired changes to reference (b).

Very respectfully,

(b) (6)

LCDR

USN

Copy to:

Chief of Staff

10 (2)

20 (2)

30

40 (2)

50 (2)

Statement of Alfred T. DOUGLAS, Representative, International Brotherhood of Teamsters concerning the mishap of C-54 BUNO 56522 at Peconic River Airport on 7 February 1964 at 1913R.

I was driving in my car on Rt. 25 heading east. There was a light rain but the visibility was clear along the road. I first noticed the aircraft as it traveled east, parallel to my car. It was a four engine plane and did not appear to be having any trouble. The landing lights were on. The right wing dipped and the plane turned, headed south and crossed the road about 5 to 6 telephone pole lengths in front of my car. The plane leveled its wings, decreased its speed and made what appeared to be a normal set down onto what I thought must be a landing strip inside the north fence. The flaps were down and the plane disappeared from sight beyond the trees inside the fence. There was no sound of engine trouble that I could hear. Next there was a crashing sound as the plane disappeared beyond the trees. For the first time I saw flames. About 3 seconds later there was an explosion as the plane turned into a fireball. The woods were aflame and I realized the plane had crashed. I immediately pulled my car off the road and parked near the fence. I left my car and climbed on top of the fence. I made a leap and landed on the ground inside the fence. I found a dirt road leading south and started running up the road toward the crash area. I made my way to the front of the wreckage and left the road. I cut through the woods and got inside the burning area near the plane. I started calling to find if anyone was still alive. I heard voices calling from two directions. I went to the voice coming from the middle area of the plane. I found one man lying on the ground about 20' W of the burning wreckage. He was in no immediate danger from flames. He said "What happened." I told him he was alright and not to worry. I told him to lie still and I would be right back to help him. I returned to the front section of the wreckage where the other voice was coming from. The wreckage was a wall of flames. Suddenly the directional shouts turned to cries of pain as the flames reached the man inside the wreckage. A section of the metal started to shake as the man inside tried to beat his way out. Then I caught a quick outline of the man trapped inside. I reached through the opening in the flames with my right arm. He grabbed me with both hands and I pulled as hard as I could. The metal just seemed to part as I pulled him out through the flames. I dragged him about 25' from the wreckage. The back of his jacket was burning and I beat out the flames with my hands. I was wearing gloves and did not receive burns on my hands. The man was able to walk with my help and together we made it through the woods to the dirt road. We both fell in the mud at the roadside. I got up and made my way back to the wreckage to the first man I had found. The brush around him was now burning and I stayed there keeping a clear circle beat around him. This I did by stomping on the burning brush with my feet. I then heard the rescue crew by the road. I shouted to them and met them part way in from the dirt road. I led them to the man with the (b) (6) and they carried him out on a stretcher. I returned to the roadside and checked the man I left there. He was still conscious. He told me his hands hurt. I reassured him that everything was alright. He told me his name was Walter. He said the plane was a C-54 but he did not remember how many were on board. The rescue crew found a third man still alive. They carried him out on

an emergency stretcher made from a fire ladder and coats from the fire engine. We waited for the rescue vehicle to arrive to remove them. A short while later a helicopter arrived. We placed the three injured men inside the copter and it took off. The men had received some emergency treatment from a doctor that was on the scene shortly before the copter arrived. Two more copters arrived and additional fire fighting equipment. I found the Officer in Charge, identified myself and asked permission to leave if I was no longer needed. The Officer thanked me for my help. He had some men drive me back through the dirt road to the north fence. I left through an emergency opening in the fence just east of my car. My car was stuck in the mud and I had to have two young fellows who were standing near the fence drive me in their car to Riverhead. The following morning I had (b) (6) treated at the hospital in Riverhead.

/s/ ALFRED T. DOUGLAS

Board Comment:

This man is credited with saving the life of (b) (6) AEL, and preventing more serious injury to (b) (6) S/SGT, USAF. This is considered a creditable statement, material is verbatim.

Authenticated:

(b) (6)

Aviation Safety Officer

(DELIVER DUPLICATE TO BASE OPERATIONS AT DESTINATION)

0674

6 Feb 64

Author's address: Department of Psychology,
University of Illinois at Chicago, Chicago, IL 60607-7181, USA.
E-mail: shawn.walker@uic.edu

56522

8. OCCUPANTS (State whether you or passenger. If 2 or more, attach separate sheet and attach.)

(b) (6)

6.	FLIGHT PLAN
----	-------------

INSTRUMENT RATING

LETDOWN EQUIPMENT ABOARD AIRCRAFT

LETDOWN AVAILABLE AT DESTINATION

NOTE: We do not know the exact date of the first appearance of the word "dinosaur" in the English language. The word was first used in 1830 by the English naturalist Richard Owen. The word "dinosaur" is derived from the Greek words "dinos" (terrible) and "saurus" (lizard).

V	U.S.	V	VOM	V	ADP	V	RADIO MAGNET	V	TACAN	V	U.S.
REMARKS ① REQUEST RADAR CLIMB ON COURSE											
② TACAN/ILS RWY 4 at BNL											
BNL-WR12											

(b) (6)

(SIGNATURE OF FILM)

D.	DESTINATION		TIME OF DEPT		FORECAST	DESTINATION (IF FA)		TIME OF ARR	
	ALTERNATE		TIME OF ARR			ALTERNATE (IF FA)			
WEATHER	FL 2500 AT HPC 1400		MAX CLIP TIME 16000 FT MIN.		THERMOMETER		MOT IV CDS		WIND
MOISTURE	W 7		DUTY ON WIND		SUNSHINE		RAIN		FOG
	MAX FINE S/L		FT MIN.		FINE WIND		SUNSHINE		WIND DIRECTION
13M 200/20-4°C PM 200/20-4°C 050/10/1000 14M 200/20-4°C PM 200/20-4°C 050/10/1000									

FLIGHT CLEARANCE AUTHORIZATION

SUBMITTER NO.		FBI		DATE		SIGNATURE OF CLEARING AUTHORITY	
INSTRUCTIONS AND APPROVAL TAKING TO BEHOLD OR BEST BY				ACTION, ETC. TIME			
STATION APPROVED BY		DATE		TIME		REMARKS	
BHC		7902		D		0250	

(b) (6)

DD FORM 1 OCT 58 175

ENTRADA EN EL MAR EN EL OCEANO.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC 1, OPNAVINST 3750.6E

Enclosure (A) to NMEF, AAR 1-64A

AIRCRAFT CLEARANCE (PLEASE DUPLICATE TO HAVE OPERATIONS AT DESTINATION)						DATE 6 Feb 64 56522
A. OPERATIONS OFFICE						
B. OCCUPANTS						
DUTY	NAME AND INITIALS	GRADE	NAVY NO.	EDUCATION	HOME STATION	
PILOT IN COMMAND	Morris, K.H.	CAPT	(b) (6)	US Navy	Kirtland	
O/P	Baker, R.T.	CDR	(b) (6)	"	"	
O/P	Abel, A. (M)	LT	(b) (6)	"	"	
Row	Sate, N.R.	ASST	(b) (6)	"	"	
"	(b) (6)	AF-1	(b) (6)	"	"	
	Caldwell, P.W.	ASST	(b) (6)	"	"	
Russ.	Gordon, W.T.	S/AT	(b) (6)	US AF	"	
	Ralph, S.C.	LT	(b) (6)	USNR	VRF 32 Norfolk, VA	

C. FLIGHT PLAN						
RADIO CALL Navy 56522/8		AIRCRAFT TYPE C-54B		POINT OF DEPARTURE Kirtland AFB, NM, USA		
ROUTE TO BE FLOWN						
IFR	VFR	ALTITUDE	ROUTE	TO	WILCO	
✓		9,000	DD	Fort Wayne (FWA)	637 NAUT. 2000	
	SIL			TO	190 KT. 3+20	
✓			V-32	Finley (CDR)	ALTITUDE 0735	
✓			V-8	Briggs (CBV)	TRANS. ALL UHF	
✓			V-226	Rutherford X.	PILOT LAST NAME MORRIS	
✓			V-251	Sparta (SAY)	FULL ON BOARD 9-00	
✓			V-36	Rutherford (EVN)	INSTRUMENT RATING	
✓			DD	Peronic (PIC)	NAVY AIR FORCE ARMY	
DATE INSTRUMENT CARD EXPIRED 6-24-64						
SIGNATURE OF PILOT IN COMMAND Capt (C2)						

LTDOWN EQUIPMENT ABOARD AIRCRAFT						LTDOWN AVAILABLE AT DESTINATION						NOTES/REMARKS		
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Request Radar vector en route (b) (6)														
TASLOPE HOLD														
RUNWAY TEMP														
PRESS ALT														

D. WEATHER		DESTINATION		TIME OF USE		WEATHER (C/F)		WEATHER (C/F)	
EXISTING	ALTERNATE	DATE OF USE	DATE OF USE	DATE OF USE	DATE OF USE	DATE OF USE	DATE OF USE	DATE OF USE	DATE OF USE
300 AT IN TMS	34000	34000	34000	34000	34000	34000	34000	34000	34000
4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000	4,000
4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3	4M 140/25/3

E. FLIGHT CLEARANCE AUTHORIZATION			
SUBMITTED TO		BY	
23		D	
SIGNATURE OF REQUESTING OFFICER		SIGNATURE OF CLEARING OFFICER	
(b) (6)		(b) (6)	

DD FORM 175

SECTION OF 1 MAY 64 IS OBSOLETE

2339

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC I, OPNAVINST 3750.62
Enclosure (B) to NMEF, AAR 1-64A

1. Baker
2. (b) (6)
3. Abel
4. Ralph
5. Morris
6. (b) (6)
7. Seitz
8. Caldwell

-oil separator
-oil pump. gov.

-eng. cowling

□ 1/2 eng

mag part- 0

eng mount
tubing

eng cowling
-auto pilot reg.
oil tubing
oil separator
eng speed ring

nose gear 1/2 part of nose steering mech.

□ 3 bottles

Starboard wing root and port gear

center fus.

tail

spec. gen.

prop feathering pump

lead edge

stbd. wing

1/2 eng

#2 eng.

Port gear

brush full of nav. gear

wing section

nav. seat

1/2 CO₂ bottle

1/2 Lt Ablet HAT

oil cooler

Pilots ins. panel

Pilots arm rest

1/2 fresh air vent (pilots)

eng cowling

prop -Y, nose jack pad

ear phone

stby compass

1/2 lead in antenna

stbd. wing

1/2 mask

antenna

ARN 11

money pinned by tree

nose heater duct to windscreen

omni antenna

parts (top)

1/2 pilots cockpit window

1/2 eng oil cooler

1/2 seat pad

1/2 prop

1/2 co-pilots cockpit window

port wing tip

prop

prop spinner 20" deep

eng imprint

16'

5' 9"

cuts approx. 10' deep

1' 3"

deep

5'

Blow up 4X

1/2 spinner eng imprint

1/2 nose wheel well parts

1/2 prop hub 1/2 blade

1/2 stbd stab. tip (1/2)

1/2 small yellow antenna's (2)

1/2 oil cooler scoop (inboard)

1/2 1 prop blade

1/2 3 tree stumps

1/2 stbd wing tip

1/2 INITIAL GROUND IMPACT

1/2 BURT ROAD

1/2 wing section

1/2 tree (first contact)

Attitude of impact - near level flight

Angle of impact - approx. 10°

0 20' 40' 60' 80'
SCALE IN FEET

FLIGHT PATH
10° mag

Summary of transcriptions of recorder tape of N.Y. Air Route Traffic Control Center from 2045Z to 2343Z concerning the mishap of C-54, BuNo 56522 at Peconic River Airport on 6 Feb 1964 at 1913R.

2045GMT

The New York Center received an estimate on Navy 56522, transponder equipt, a C-54, transport from the Bunker Hill AFB, Ind. to the Peconic Airport, N.Y. via Victor Airways 276, 251, 36 to the Riverhead, N.Y. VOR direct, maintaining 9,000 feet, estimated the Tyrone, Pa. VOR at 2217 GMT, from the Cleveland Air Route Traffic Control Center.

2159GMT

The New York Center issued routing to the Cleveland Center for relay to Navy 56522 as follows, Victor Airways 276, 16 to the Riverhead, N.Y. VOR direct the Peconic Airport. The Cleveland Center advised the New York Center, that Navy 56522 was estimating the Tyrone VOR at 2215GMT.

2215GMT

New York Center established radio contact with Navy 56522. Navy 56522 estimated the Ravine, Pa. VORTAC at 2234GMT, maintaining 9,000 feet. The New York Center issued a Phillipsburg altimeter of 29.02 to Navy 56522.

2223GMT

Navy 56522 reported his position, 38 miles West of the Ravine VOR.

2228GMT

The New York Center advised Navy 56522 of a light rime icing condition at 7,000 feet and negative turbulence reported.

2234GMT

Navy 56522 reported over the Ravine VOR estimating the Quakertown, Pa. intersection at 2250GMT at 9,000 feet.

2235GMT

The New York Center cleared Navy 56522 to descend and maintain 8,000 feet and issued a Allentown altimeter of 29.02. Navy 56522 departed 9,000 feet.

2237GMT

Navy 56522 reported reaching 8,000 feet.

2242GMT

The New York Center established Radar contact with Navy 56522.

2248GMT

A Radar hand off and coordination was effected with the adjacent sector, #9, along Navy 56522's route of flight. Navy 56522's position, as determined by Radar, 7 miles West of the Allentown 198 Radial (Victor Airway 29).

-1-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (J) to NWEF, AAR 1-64A

Transcript of Peconic Tower Recording Tape concerning the mishap of C-54,
Buno 56522, at Peconic River Airport on 6 Feb 1964 at 1913R.

Time 2336Z

56522: Peconic Tower, Peconic Tower, Navy 56522, over.

Tower: Navy 6522, Peconic Tower. Go ahead.

56522: 522, we're 12 miles South of Riverhead. We are cleared, ... we have been cleared by New York Control for a VOR approach to your station. Have you got the latest ceiling and visibility ... (break), over.

Tower: Roger 522, the Peconic altimeter is now 29.01. The winds are from the Southeast running 26 knots. The weather is partial obscuration measured 500 overcast, 1 and a half miles in light rain and fog.

56522: Roger. We're going to attempt, ... we're going to make a VOR penetration and if possible land if we can break out to minimums. If not we will probably proceed to Quonset, our alternate.

Tower: Roger, 522. We will be using Runway one-four. The lights are on full brilliance.

56522: Roger, thank you.

56522: Peconic Tower, 56522, say again your runway that's in use.

Tower: 522, it will be runway one-four, runway fourteen.

56522: Runway 14, roger.

Tower: 522, be advised at this time the ILS is back in operation. However, it would probably take you some time to change your type of approach.

56522: 522, Roger.

56522: 522, Roger. We'll go ahead and continue our VOR approach and if we don't make that we'll - a - try it again on ... (transmission cut off).

Tower: Roger, understand, you'll continue the VOR. If you miss the approach, try an ILS.

Tower: 522, Peconic, what is your position now? (no reply).

Tower: Peconic Tower testing 1-2-3-4-5-5-4-3-2-1.

Tower: Navy 522, Peconic Tower. (no reply). (Intermittent static).

-1-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (K) to NWEF, AAR 1-64A

K

Tower: Navy 522, Peconic Tower, do you read? (no reply). (Intermittent static).

Time 2344Z

56522: Peconic Tower, Navy 56522.

Tower: 6522, Peconic, go ahead.

56522: We have been cleared by New York Control for an ILS approach. We are now inbound to the middle marker.

Tower: Roger, 6522, we'll have the lights coming up on runway zero-five full brilliance. Give us a call when you have contact and we'll bring them down so you can land.

56522: Roger, thank you.

Tower: 522, you can make it a straight in on runway zero-five. The wind is 100 degrees, 18 gusting to 25 knots. (no reply). (Intermittent static).

Tower: 522, Peconic, what's your position now?

56522: 622, we're just about overhead. We're getting some pretty rough weather. I think we ought to try another approach.

Tower: Roger, 522. We don't have you in sight.

Tower: 522, what's your present heading?

56522: This is 22, our present heading is three-five-zero.

Tower: Roger.

56522: Tower, this is 56522, we're inbound on about a heading of 140 to the middle marker and we're preparing to execute another ILS approach.

Tower: Roger, 522, cleared for your approach. The wind is now indicating one hundred and 20 degrees between 20 and 30 knots. The lights are on runway zero-five.

56522: Roger, thank you.

Tower: Navy 522, Peconic, what's your position now?

56522: 522 we're outbound on ILS leg. We're just passed the middle marker.

Tower: Roger 522. Call the outer marker inbound.

56522: Roger, 522.

-2-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (K) to NWEF, AAR 1-64A

56522: This is 522, inbound outer marker.

Tower: 522, Peconic, cleared inbound. Cleared to land runway zero-five.
The wind is 100 degrees running between 15 and 20 knots now.

56522: Roger.

Tower: 522, we have you in sight.

56522: 56522, we're contact but we're going to have to take it around again.
We're getting too much wind; we're drifting.

Tower: Roger, 522.

Tower: 522, do you want to just head out? We'll throw the lights on 14 for you.

56522: Let's see, that will put the wind a little more directly on the runway,
I believe. Wouldn't it?

Tower: Roger.

56522: Yeah, let's have the lights on Runway 14.

Tower: How's that?

Tower: Take a left 270 if you wish or a right 360 onto Runway 14.

56522: Watch your head, Jack; you're 300 feet. (excited voice).

Time 00132

Board Comment:

56522's voice was determined to be that of CDR R. J. BAKER by CDR (b) (6) Project Director, BUMPS, Naval Weapons Evaluation Facility, who listened to the recording with the Board members. Peconic does not have a device which records the time of transmission on the tape. The times other than the crash time, which was logged by the tower, are from interpolation of the times from the FAA tapes.

Authenticated:

(b) (6)

Aviation Safety Officer

2249GMT

New York Center, sector #11 transferred Navy 56522 to New York Center, sector #9, frequency 290.2 mcs.

2251GMT

New York Center, sector #9, established Radar and radio contact with Navy 56522.

2252GMT

The New York Center re-cleared Navy 56522 to the Peconic Airport via Victor Airway 276 the Robbinsville, N.J. VOR thence the Robbinsville 122 Radial to intercept Victor Airway 139 to the Hampton, N.Y. VOR direct Peconic.

2256GMT

New York Center sector #9 effected coordination and a Radar hand off with the adjacent sector, #5, along Navy 56522's route of flight. Navy 56522's position, as determined by Radar, 5 miles West of the Lublin intersection. New York Center sector #9, transferred Navy 56522 to New York Center sector #5 frequency.

2257GMT

New York Center sector #5 established Radar and radio contact with Navy 56522.

2304GMT

The New York Center advised Navy 56522, that the Peconic ILS was out of service, the weather was dropping rapidly and the current weather was 500 feet overcast visibility $1\frac{1}{2}$ miles. The New York Center advised the pilot of Navy 56522 to advise of his intentions. The pilot of Navy 56522 stated, "if below minimums for a VOR we'll go to our alternate Quonset Point."

2305GMT

Navy 56522 request the Quonset Point weather. The New York Center cleared Navy 56522 to contact Idlewild Flight Service Station for the Quonset Point weather.

2307GMT

Navy 56522 reported over the Robbinsville VOR.

2309GMT

The pilot of Navy 56522 advised the New York Center that he would defer his decision until he got closer to the Peconic Airport, and if the ceiling permitted he would make a VOR approach otherwise he would proceed to his alternate. The New York Center cleared Navy 56522 to the Hampton VOR, clearance limit.

2310GMT

Intra center coordination was effected by New York Center sector #5 and sector #10.

2315GMT

New York Center sector #5 effected a Radar hand off with New York Center sector #10, adjacent sector, on Navy 56522. Navy 56522's position, as determined by

Radar, on the Robbinsville 122 Radial crossing Victor Airway 16.

2316GMT

New York Center sector #5 transferred Navy 56522 to New York Center sector #10.

2320GMT

New York Center sector #10 established radio and Radar contact with Navy 56522. The New York Center issued a Radar vector via a left turn to 050 degrees.

2323GMT

The New York Center issued a Radar vector via a right turn to 060 degrees.

2328GMT

The New York Center cleared Navy 56522 to descend and maintain 4,000 feet. Navy 56522 reported leaving 8,000 feet.

2320GMT

Intra Center coordination was effected between New York Center sector #10 and sector #6. The New York Center cleared Navy 56522 to descend and maintain 3,000 feet. Navy 56522 reported leaving 6,500 feet. The New York Center cleared Navy 56522 to the Riverhead VOR, clearance limit, via present heading, 060 degrees, until leaving 4,000 feet then proceed direct to the Riverhead VOR.

2333GMT

The New York Center effected coordination with Kennedy approach control for the use of 3,000 feet and below at the Riverhead VOR.

2334GMT

Navy 56522 reported leaving 4,000 feet and proceeding direct the Riverhead VOR.

2335GMT

The New York Center cleared Navy 56522 for a VOR approach to the Peconic Airport. Navy 56522 acknowledged receipt of the approach clearance. The New York Center terminated Radar service to Navy 56522 and cleared him to contact Peconic tower. Navy 56522 advised leaving New York Center frequency and changing to Peconic tower's frequency.

2342GMT

Navy 56522 returned on the New York Center's frequency and advised his position was 5 miles West of the Riverhead VOR at 3,000 feet. The pilot further stated that the Peconic tower advised him the ILS was operational and requested an ILS approach to the Peconic Airport.

2343GMT

The New York Center cleared Navy 56522 for an ILS approach to the Peconic Airport. Navy 56522 acknowledged receipt for the approach clearance.

No more follows.

(b) (6)

-3-

Aviation Safety Officer

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (J) to NMEF, AAR 1-64A

Statement of Michael A. CHARTUK, Night Tower Supervisor, Peconic River Airport concerning the mishap of C-54 Buno 56522, at Peconic River Airport on 6 Feb 1964 at 1913R.

- 2245Z At 2245Z the ILS monitor flashed Localizer and Glide Path in the red. Having an IFR inbound (Navy 56522, ETA 2339Z), I promptly NOTAMed the Localizer and Glide Path out (2246Z) and urged W.K. at FAA Flight Service Station to expedite maintenance men to the ILS and requested he notify NYARTC, since we below minimums for a VOR approach. Also, I asked if Navy 56522 had an alternate. At this time, I took note that fuel exhaust time for Navy 56522 was given as 0519Z.
- 2319Z At 2319Z, F.Z. at NYARTC notified us that Navy 56522 was inbound. Weather at this time was - Partial obscuration, Measured 500 overcast, 1 1/2 miles visibility with light rain and fog, minimums for a VOR approach. In view of this, and also in view that the FAA maintenance men had arrived, had already restored the Localizer (2316Z), and were preparing to restore the Glide Path, I accepted the IFR inbound.
- 2325Z (2336Z) At about 2325Z, Navy 56522 called Peconic Tower for an IFR VOR approach, cleared by NYARTC to Peconic. Navy 56522 was given weather, partial obscuration 500 overcast, 1 1/2 miles visibility with very light rain and fog, altimeter 29.01, and wind.
- At 2326Z, FAA maintenance notified us the Glide Path was restored, putting the ILS system back to normal operation. Navy 56522 was called and advised of this. He replied he would continue his VOR approach. Several minutes (about 7) passed with no further contact with Navy 56522. During this several minutes Peconic Tower attempted, without success, to get position reports.
- 2332Z (2344Z) About 2332, Navy 56522 called Peconic Tower saying he was in contact with NYARTC and was now cleared for an ILS approach and was approaching the Outer Marker.
- 2340Z After about 8 or 9 minutes, Peconic Tower requested a position report. Navy 56522 reported "about overhead" and was going to try another ILS approach. Navy 56522 was neither seen nor heard at this time.

-1-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (1) to NWEF, AAR 1-64A

Michael A. CHARTUK

2352Z On the next call for a position, Navy 56522 reported he was at the Middle Marker outbound. He was asked to report Outer Marker inbound. All personnel were on the lookout for the aircraft and the weather was observed but not recorded.

0007Z In due time, Navy 56522 reported Outer Marker inbound. A weather check showed measured 500 overcast, 4 miles visibility with very light rain and fog. Navy 56522 was given wind and cleared for a straight in approach, and if he wished, landing Runway 5. Navy 56522 broke out in line with Runway 5. The lights which had been put at full brilliance to assist contact, were dimmed.

0011Z Navy 56522 rapidly descended to the runway and pulled up calling for a wave off saying he was wind blown and would land on Runway 14. It was agreed that Runway 14 was more into the wind. Navy 56522 was cleared for the wave off and when the aircraft had crossed the end of the ILS runway, lights were switched to Runway 14 and the aircraft was cleared for a 270 to the left for Runway 14. Up to this point Navy 56522 was climbing out of the wave off and was wing level.

0012Z Immediately after crossing the projected end of Runway 32, Navy 56522 banked sharply to the right in a descending turn.

0013Z I saw ragged orange flame about two aircraft lengths long trail the aircraft. At once, what was the aircraft, became a rectangular, brighter orange flash about three aircraft lengths long, parallel to the ground. The rectangle became immediately surmounted by a blinding, white, hemospheric explosion.

Time was noted as 0013Z. Emergency procedures were instituted immediately.

An aircraft accident local weather observation was taken at 0013Z (1900EST) and inadvertently placed in R1900 FNO line in WBAN10.

/s/ Michael A. CHARTUK

-2-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (L) to NWEF, AAR 1-64A

Michael A. CHARTUK

Board Comment:

The times other than the crash (0013Z) are inaccurate, the approximate times are given where known in () under the listed times, all other material is verbatim. The "ragged orange flame" cannot be explained; there was no fire in flight. This is assumed to be imagined by the witness.

Authenticated:

(b) (6)

Aviation Safety Officer

-3-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (L) to NWEF, AAR 1-64A

Statement of Lester L. KIEHN, Tower Controller, Peconic River Airport concerning the mishap of C-54 Buno 56522, at Peconic River Airport on 6 Feb 1964 at 1913R.

At approximately 2325Z, Navy 522 called Peconic Tower that he had been cleared for a VOR approach to Peconic by NYARTC. At this time he was given the field weather conditions and cleared outbound.

At about 2330Z, the aircraft was informed that the Peconic ILS, which had been inoperative, was back in service. The pilot of Navy 522 informed the tower that he would continue his VOR approach. A minute or two later, the Tower tried to contact the aircraft for a position report and received no answer. Some time after this, Navy 522 called Peconic Tower and told us he had been in contact with NYARTC and was now cleared for an ILS approach, and was Middle Marker outbound.

We received no calls for about 7-10 minutes. The Tower called 522 for a position. The pilot of 522 said he was nearly overhead and was going to try another ILS approach. The aircraft had not been in sight, or heard, at this time. About 3 minutes later, the Tower called 522 for a position, and he replied at the Middle Marker outbound. The Pilot was asked to call at the Outer Marker inbound. The next call received from 522 was at the Outer Marker inbound. At this time, he was given the wind velocity and direction and cleared for a straight in landing on Runway 5.

Aircraft became visual at or near the Middle Marker descending at a steep angle. The pilot at this time told the Tower he was waving off due to too much crosswind. The Tower suggested Runway 14 which was more into the wind and the pilot agreed that he would like it. At all times after passing the Middle Marker, the aircraft was in visual contact by the Tower and appeared to be a normal wave off.

522 was cleared for a left 270 turn on to final for Runway 14 from a point approximately 500 feet over the apex of Runways 14/23 and a Northeast heading. The lights were put on Runway 14. At this time the aircraft was observed to bank steeply to the right and nose down. The pilot or co-pilot was heard to say "Look out you are at 300". The ship continued in a descending right turn and struck the ground at a point approximately $\frac{1}{2}$ mile Northeast of the apex of the runways.

-1-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (M) to NWEF, AAR 1-64A

Lester L. KIEHN

A fuel explosion followed. Fire crash equipment was alerted.

— Rescue operations were hampered by heavy mud and the inaccessible locations of the crash site.

/s/ Lester L. KIEHN

Board Comment:

The times given are inaccurate, being approximately 11 minutes early. Material is verbatim.

Authenticated:

(b) (6)

Aviation Safety Officer

-2-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (X) to NWEF, AAR 1-64A

Statement of Alfred T. DOUGLAS, Representative, International
Brotherhood of Teamsters concerning the mishap of C-54 Duno 56522,
at Peconic River Airport on 6 Feb 1964 at 1913R.

I was driving in my car on Rt. 25 heading east. There was a light rain but the visibility was clear along the road. I first noticed the aircraft as it traveled east, parallel to my car. It was a four engine plane and did not appear to be having any trouble. The landing lights were on. The right wing dipped and the plane turned, headed south and crossed the road about 5 to 6 telephone pole lengths in front of my car. The plane leveled its wings, decreased its speed and made what appeared to be a normal set down onto what I thought must be a landing strip inside the north fence. The flaps were down and the plane disappeared from sight beyond the trees inside the fence. There was no sound of engine trouble that I could hear. Next there was a crashing sound as the plane disappeared beyond the trees. For the first time I saw flames. About 3 seconds later there was an explosion as the plane turned into a fireball. The woods were aflame and I realized the plane had crashed. I immediately pulled my car off the road and parked near the fence. I left my car and climbed on top of the fence. I made a leap and landed on the ground inside the fence. I found a dirt road leading south and started running up the road toward the crash area. I made my way to the front of the wreckage and left the road. I cut through the woods and got inside the burning area near the plane. I started calling to find if anyone was still alive. I heard voices calling from two directions. I went to the voice coming from the middle area of the plane. I found one man lying on the ground about 20' W of the burning wreckage. He was in no immediate danger from flames. He said "What Happened." I told him he was alright and not to worry. I told him to lie still and I would be right back to help him. I returned to the front section of the wreckage where the other voice was coming from. The wreckage was a wall of flames. Suddenly the directional shouts turned to cries of pain as the flames reached the man inside the wreckage. A section of the metal started to shake as the man inside tried to beat his way out. Then I caught a quick outline of the man trapped inside. I reached through the opening in the flames with my right arm. He grabbed me with both hands and I pulled as hard as I could. The metal just seemed to part as I pulled him out through the flames. I dragged him about 25' from the wreckage. The back of his jacket was burning and I beat out the flames with my hands. I was wearing gloves and did not receive any burns on my hands. The man was able to walk with my help and together we made it through the woods to the dirt road. We both fell in the mud at the roadside. I got up and made my way back to the wreckage to the first man I had found. The brush around him was now burning and I stayed there keeping a clear circle beat around him. This I did by stomping

-1-

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (N) to NWEF, AAR 1-64A

on the burning brush with my feet. I then heard the rescue crew by the road. I shouted to them and met them part way in from the dirt road. I led them to the man with the (b) (6) and they carried him out on a stretcher. I returned to the roadside and checked the man I left there. He was still conscious. He told me his hands hurt. I reassured him that everything was alright. He told me his name was Walter. He said the plane was a C-54 but he did not remember how many were on board. The rescue crew found a third man still alive. They carried him out on an emergency stretcher made from a fire ladder and coats from the fire engine. We waited for the rescue vehicle to arrive to remove them. A short while later a helicopter arrived. We placed the three injured men inside the copter and it took off. The men had recieved some emergency treatment from a doctor that was on the scene shortly before the copter arrived. Two more copters arrived and additional fire fighting equipment. I found the Officer in Charge, identified myself and ask permission to leave if I was no longer needed. The Officer thanked me for my help. He had some men drive me back through the dirt road to the North fence. I left through a emergency opening in the fence just east of my car. My car was stuck in the mud and I had to have two young fellows who were standing near the fence drive me in their car to riverhead. The following morning I had a (b) (6) (b) (6) treated at the hospital in riverhead.

/s/ Alfred T. DOUGLAS

Board Comment:

This man is credited with saving the life of (b) (6), S/Sgt, USAF and preventing more serious injury to (b) (6) AEL. This is considered a creditable statement, material is verbatim. Douglas has had 3 years experience as a fireman and 3 years in
Authenticated: the Naval Air Reserve Program.

(b) (6)

Aviation Safety Officer

Statement of Neil K. WARREN, Plane Captain, Grumman Aircraft Engineering Corporation concerning the mishap of C-54 Buno 56522, At Peconic River Airport on 6 Feb 1964 at 1913R.

I was standing by (in front of operations) to receive A/C after landing. The A/C approached the East/West Runway from the West. He leveled off at about 300 ft alt. for the entire length of the Runway and didn't seem to gain any altitude as he made a right bank just past the North end of the North/South Runway. I heard no abnormal noises as the A/C passed or till impact. There was a brilliant orange light and almost simultaneous explosion. Myself and 2 others were the first on the scene with the exception of a civilian who climbed the fence and ran over by foot. We found 3 survivors within 50 to 100 ft. to the right of the bulk of the wreckage, the other four were in the same area but had no pulse beat.

I was informed prior to the crash, that the A/C was coming in on I.L.S. on the East/West Runway which had lights on. Minutes before he made his pass from the West the Runway lights went out on the E/W Runway and went on - on the North/South Runway. The wind seemed from the south at about 6 knots. It was rainy and semi-clear visibility - Temp. about 45, the time about 1910.

/s/ Neil K. WARREN

Board Comment:

This is considered a creditable statement, material is verbatim.

Authenticated:

(b) (6)

Aviation Safety Officer

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (0) to NWP, AAR 1-64A

GAEC

Statement of James F. CONLAN, Plane Captain, concerning the mishap of C-54 Buno 56522, at Peconic River Airport on 6 Feb 1964 at 1913R.

I was awaiting arrival of C-54, to assist in parking and loading aircraft. It was raining with good visibility but ceiling about 500 ft. I was standing outside Grumman operations observing C-54 making what I assumed to be an ILS approach on runway 5 going east - he passed over runway at about 300 ft. - I assumed he was making a pass before landing - his gear appeared to be down as well as I could make out by his landing lights. As he passed over I noted the runway light on runway 32 or N.S. were on. I then thought he would go around and land on that runway, as this was more into the wind which was coming from SE. I seen him go into a tight right turn, I thought for a minute he was trying to make the other runway without going around. He scared me I could see his port running light so I knew his turn was tight then he lost altitude and I knew he had it. A few seconds later there was a roaring orange flames that lit the sky. I jumped in my jeep and drove to the crash site and assisted in removing the injured and deceased.

/s/ James F. CONLAN

Board Comment:

Witness stated that it did not seem as though full power was added for a wave-off. The aircraft passed over the runway in level flight then entered a right turn until the crash. This is considered a creditable statement, material is verbatim.

Authenticated:

(b) (6)

Aviation Safety Officer

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (P) to NWEF, AAR 1-64A

Statement of Eugene M. GERMOND, Government Inspector, Grumman Aircraft Engineering Corporation concerning the mishap of C-54 Buno 56522, at Peconic River Airport on 6 Feb 1964 at 1913R.

The witness answered the questions on NASNY-SAF-3750/21 (4/63).

1. Misty visability fair
2. Approach for landing
3. 2 engines running not full power
4. Unknown
5. No
6. Port side on fire before landing

Heard no explosion

/s/ Eugene M. GERMOND

Board Comment:

Witness stated he saw the aircraft on fire before impact, however, from the position of the witness in his living room, he could not see the aircraft until it struck the trees. This witness has 32 years experience around aircraft as a mechanic and inspector.

Authenticated:

(b) (6)

Aviation Safety Officer

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (Q) to NWP, AAR 1-64A

Resume of Pilot Experience
(Does not include 6 FEB 1964)

CAPT Kyle H. MORRIS
Service Group 3, Category 4

CDR Robert J. BAKER
Service Group 1, Category 1

Fiscal Year	Type A/C	Hours
1960	C-1	77.0
	TC-45J	14.0
	C-47	4.0
1961	C-47	149.0
1962	TC-45J	82.0
	C-47	8.0
1963	S-2A	34.0
	T-1A	12.0
	C-54Q	91.0
	A-1G	6.0
	P-3A	3.0
	F-4B	1.0
1964	S-2A	37.4
	T-1A	11.8
	C-54Q	70.3

Fiscal Year	Type A/C	Hours
1960/1961 - no log data available		
1962	C-45	93.0
1963	TC-45J	24.0
	C-54Q	54.0
	C-47	40.0
	A-1G	21.0
	C-1	7.0
	S-2A	2.0
1964	C-54Q	104.0
	S-2A	39.2
	A-1E	14.0

Instrument Approaches Previous 90 Days

Date	Type A/C	Type Approach	Date	Type A/C	Type Approach
2-5	T-1A	2 - ILS - simulated	1-30	A-1E	1 - ILS - simulated
1-31	C-54	1 - GCA - simulated(N)	1-22	S-2A	1 - ILS - simulated
		1 - ILS - simulated			1 - GCA - simulated
1-29	T-1A	2 - ILS - simulated	1-10	C-54	1 - ILS - simulated
1-3	S-2A	1 - ILS - simulated(N)	12-27	S-2A	1 - ILS - simulated
12-30	T-1A	1 - ILS - simulated	12-19	C-54	1 - GCA - simulated
12-17	C-54	1 - GCA - simulated	12-16	C-54	1 - GCA - simulated
12-13	T-1A	2 - ILS - simulated	11-18	S-2A	1 - ILS - simulated(N)
12-6	S-2A	1 - ILS - simulated	11-14	S-2A	1 - VOR - simulated(N)
		1 - GCA - simulated	11-13	S-2A	1 - GCA - actual
11-22	T-1A	2 - ILS - simulated			1 - ILS - actual
11-20	C-54	1 - ILS - actual (N)			
		1 - GCA - actual (N)			

On 26 of 35 flights since 1 July 1963, CAPT MORRIS made at least one simulated approach.

On 32 of 50 flights since 1 July 1963, CDR BAKER made at least one simulated approach.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (R) to NWEF, AAR 1-64A

WEIGHT AND BALANCE CLEARANCE FORM F TRANSPORT (USE REVERSE FOR TACTICAL MISSIONS)				Form Replaces DAF Form 200 HCAF Form F, 118 C NSA 8-61 (Rev)		FOR USE IN T.O. 1-12-49 P AN 81-18-45	
DATE 2-6-64		AIRPLANE TYPE C54-Q		FROM ABQ		HOME STATION KAFB	
MISSION/TRIP/FLIGHT NO. SPL		SERIAL NO. 56522		TO BUNKER HILL AFB HARRISBURG, PA		PILOT CAPT MURKIS	
LIMITATIONS				ITEM	WEIGHT	INDEX OR MON	
CONDITION	TAKEOFF	LANDING	LIMITING WING FUEL				
1 ALLOWABLE GROSS WEIGHT	73000	63500	58000	1 BASIC AIRPLANE (From Chart C)	43405	71.0	
TOTAL AIRPLANE WEIGHT (Ref. 1)	61940			2 OIL (117 Gal)	255	71.5	
OPERATING WEIGHT PLUS ESTIMATED LANDING FUEL WEIGHT		53690		3 CREW (400)	800	71.3	
OPERATING WEIGHT (Ref. 6)			45140	4 CREW'S BAGGAGE			
ALLOWABLE LOAD (Ref. 10) (USE SMALLEST figure)	11060	10310	12860	5 STEWARD'S EQUIPMENT			
PERMISSIBLE C. G. TAKEOFF	FROM 16	TO (% M.A.C. or IN) 32		6 EMERGENCY EQUIPMENT			
PERMISSIBLE C. G. LANDING	FROM 16	TO (% M.A.C. or IN) 32		7 EXTRA EQUIPMENT			
LANDING FUEL WEIGHT	7050			8 OPERATING WEIGHT	45140	71.3	
REMARKS FUEL @ 6.0 ML @ 7.5 PAK @ 180				12 DISTRIBUTION OF ALLOWABLE LOAD (PAYLOAD)		61940 71.3	
COMPT				UPPER COMPARTMENTS		LOWER COMPARTMENTS	
				PASSENGERS		PASSENGERS	
				CARGO		CARGO	
				NO. WEIGHT		NO. WEIGHT	
A							
B							
C 4 720						720 65.3	
D				1938		1938 62.0	
E				2438		2438 62.9	
F				1800		1800 62.0	
G				1500		1500 73.3	
H				250		250 73.3	
I				850		850 76.0	
J							
K							
L							
M							
N							
O							
P							
FWD BELLY							
AFT BELLY							
TOTAL FREIGHT				9376			
TOTAL MAIL							
COMPUTER PLATE NUMBER (If used)							
13 TAKEOFF CONDITION (Theoretical)				72136		76.0	
14 CORRECTIONS (If required)							
15 TAKEOFF CONDITION (Computed)							
16 TAKEOFF C.G. IN % M.A.C. OR IN				36.1% MAC		76.0	
17 LESS FUEL				9750		76.0	
18 LESS AIR SUPPLY LOAD DROPPED							
19 NISC VARIABLES							
20 ESTIMATED LANDING CONDITION				62856		76.0	
21 ESTIMATED LANDING C.G. IN % M.A.C. OR IN				36.3% MAC			
COMPUTED BY				O'Hannan R. Lutz ADR1			
WEIGHT AND BALANCE AUTHORITY							
PILOT				R.D. Mow			
SIGNATURE							
TOTAL WEIGHT REMOVED				-		-	
TOTAL WEIGHT ADDED				+		+	
NET DIFFERENCE (Ref. 12)							

DD FORM 1 SEPT 64 365 REAL HANDLING IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Inclosure (S) to NWET AAR 1-64A

AIRCRAFT CRASH FIRE REPORT

1	AIRCRAFT MODEL	REGISTRATION No.	AIRCRAFT OWNER	DATE OF REPORT				
	C-54 Navy	522	U.S. Navy	February 7, 1964	1			
2	DATE OF INCIDENT	TIME	SCENE OF INCIDENT	LOCATION	DISTANCE			
	February 6, 1964	19:13	North east of tower	Calverton	1 mile			
3	WEATHER	GENERAL	TEMP.	HUMIDITY	WIND DIRECTION	VELOCITY		
4	INDICATE CLASSIFICATION OF INCIDENT		FIRE	NO FIRE	TAKE-OFF	LANDING	TAXI	LIN
		X	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	TIME ALARM RECEIVED	TIME FIRST ARRIVAL	TIME FIRE OUT	GROUND SURFACE				
	19:13	19:21	19:30 +- 5 mins	Mud, woods				
6	FIRE EQUIPMENT USED							
	TYPE APPARATUS	NUMBER	SIZE CREW	EXTINGUISHING AGENTS USED	TYPE AND AMOUNT FUEL INVOLVED			
				TYPE	QUANTITY			
	Foam truck	1	2	Foam	25 gals of foam	Aviation gas		
	Ansul (Ford)	1	1	Dry powder	750 gals of water			
	Cardox	1	1	Co-2	Hand extinguishers			
No. PEOPLE IN PLANE		7 Eight		RESCUE Three				
		UNINJURED	INJURED	UNBURNED	BURNED	MINOR MAJOR		
No. ESCAPED UNAIDED								
No. RESCUED ALIVE			3		X			
No. REMOVED DEAD					25			
LOCATION IN PLANE		25 ft. west 100 ft. west		mid section				
OTHER THAN OCCUPANTS								
8	MATERIAL DAMAGE							
CAUSED BY CRASH			CAUSED BY FIRE					
Complete loss			extensive					
9	FIRE FIGHTING PERSONNEL							
COGNIZANCE OVER CRASH CREW			TITLE OF PERSON IN CHARGE AT SCENE					
CRASH CHIEF <input type="checkbox"/> OPERATIONS <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>			Crew Captain					

10 CLEAR AND CONCISE DESCRIPTION OF INCIDENT AND ACTION TAKEN:

At 19:13 hrs., Feb 6, 1964, the Grumman Peconic Tower notified the Crash Trucks that a plane had crashed North East of Runway 14. Trucks 20, 21 & 22 responded and stopped by operations. The tower was called for the exact location of the crash. The Tower stated they believed it was on the Grumman property. We proceeded out the North gate (7) heading East on Jericho Tpke until the location was established. The lock on Gate No. 8 was cut and then drove through to the area of the crash. Upon arriving at the scene with Trucks 20 & 22 the terrain was checked for the best possible direct route to the crash site. Finding none, all extinguishers brought from the trucks to the scene, notified the tower to send out both Ansuls jeep. and directed both hand lines be joined together for the distance. The Trucks were approximately 125 feet from the major part of the crash. The fire was extinguished, except for the burning magnesium, and the search for survivors was begun. We found three survivors and five bodies. Assistance was received from Grumman's Day Shift Crash Crew, Riverhead Fire Dept., Suffolk County Air Force Crash Crew and personnel from Plant #7.

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E
Enclosure (U) to NMEF, AAR 1-64A

U. S. NAVAL WEAPONS EVALUATION FACILITY
KIRTLAND AIR FORCE BASE
ALBUQUERQUE NEW MEXICO

2712/RWC:lgo
3740

Ser: 3200/754

11 JUN 1963

From: Commanding Officer, U.S. Naval Weapons Evaluation
Facility, Kirtland Air Force Base, Albuquerque,
New Mexico

To: Commandant, EIGHTH Naval District

Subj: C-54 Plane Commander Designation; request for

Ref: (A) OPNAVINST 3740.40

Encl: (1) Transport Plane Commander Designation Form
(Sample)

1. Certification of enclosure (1) in the case of CAPT K. H.
MORRIS, USN is requested in accordance with reference (a).

2. CAPT MORRIS was previously qualified in multi-piloted
aircraft (TF, R4D). He has accumulated 85 hours in the C-54Q
(R5D-3) during checkout, familiarization and cross-country
flights and has clearly demonstrated the requisite knowledge,
skill and capabilities for this designation. He holds a
current special instrument rating and has a total of 4215
hours pilot time.

(b) (6)

By direction

(b) (6)

(b) (6)

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC I, OPNAVINST 3750.6E
Enclosure (V) to NMEF, AAR 1-64A

231/ea
1412

2 JUL 1963

From: Commandant, Eighth Naval District

To: CAPT K. H. MORRIS, USN, (b) (6)

Subj: Transport Plane Commander; designation of

Ref: (a) OPNAVINST 3740.40
(b) NMCF ltr of 11 Jun 1963

1. In accordance with the provisions of reference (a) and the recommendation contained in reference (b), you are hereby designated a TRANSPORT PLANE COMMANDER in the C-54 model aircraft.

2. Certification of this designation shall be made in your Aviator's Flight Log Book, in accordance with paragraph 11 of reference (a), citing this letter as authority. This designation will be noted in your next Report of Fitness and a copy of this letter shall be filed in your Officer Service Jacket.

H. C. SPICER, Jr.
Acting

Copy to:
BuPers (Pers-522)
NMCF (3)

(b) (6)

CERTIFIED A TRUE COPY

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC 1, OPNAVINST 3750.6E
Enclosure (N) to NMCF, AAR 1-64A

11 February 1964

TO WHOM IT MAY CONCERN

1. This is to certify that CAPT K. H. MORRIS, USN, satisfactorily completed a special instrument and yearly standardization check for C-54 type aircraft on 12 June 1963.
2. CAPT MORRIS had previously completed a written examination on the C-54 aircraft handbook. He desired to retain the completed examination for his personal files, however, the exam cannot now be located.

(b) (6)

Operations Officer
U.S. Naval Weapons Evaluation Facility

X

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC I, OPNAVINST 3750.62
Enclosure (X) to NWEF, AAR 1-44A




P-141767

2/7/64

Enclosure (D) to NWEF, AAR 1-64A
showing aerial view of wreckage

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E

D

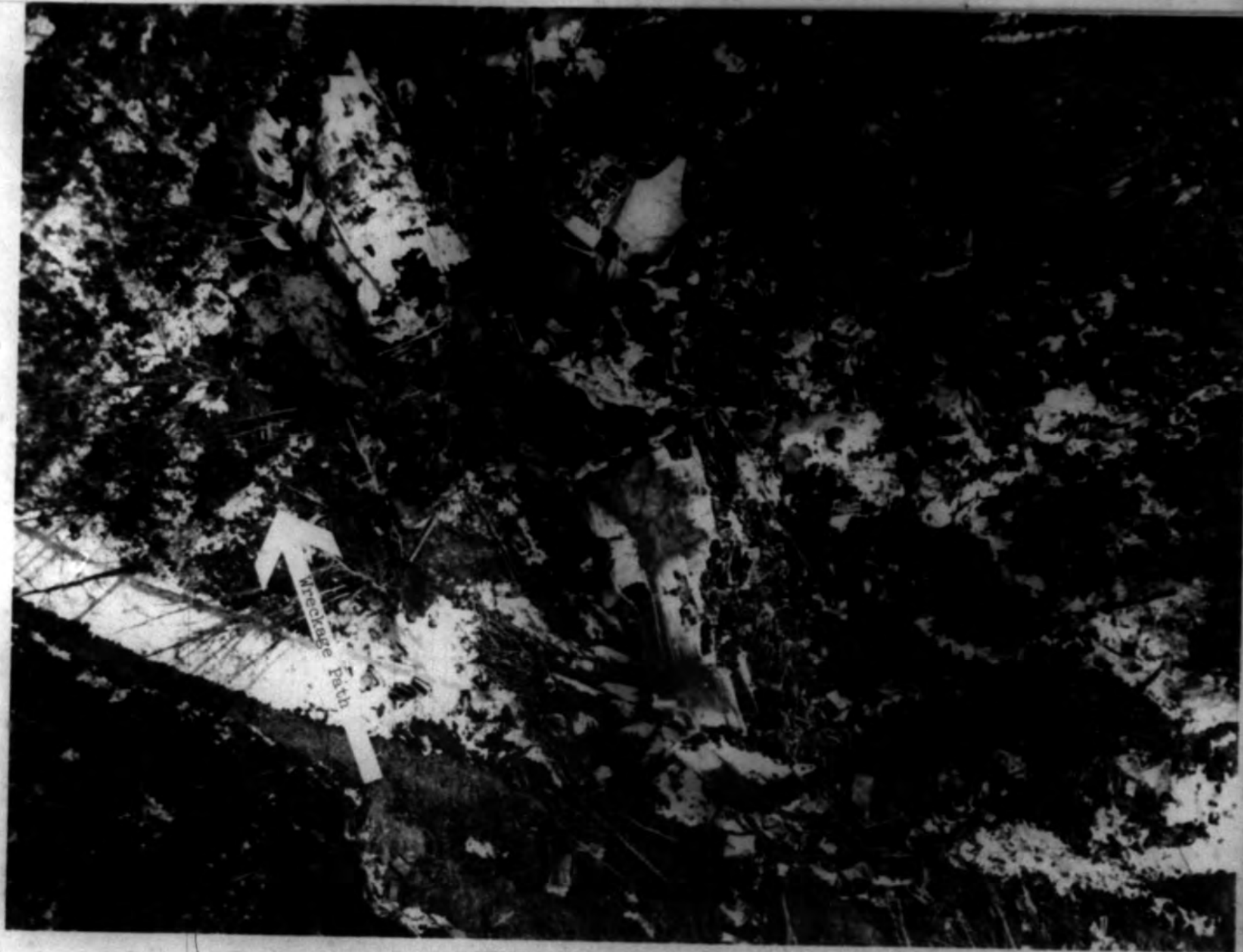
An aerial photograph showing a crash site in a wooded area. The wreckage is visible in the center-left, surrounded by dense trees and brush. A light-colored, possibly sandy or cleared area runs diagonally across the middle of the image. The overall scene is dark and grainy, typical of a black and white aerial shot.

Enclosure (2) to NWEF, AAR 1-64A

showing aerial view of wreckage and runway 14 of Peconic

P-141766

2/7/64



SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC I, OPNAVINST 3750.6E
Enclosure (F) to NMEF, AAR 1-644



P-141789

277/64

Enclosure (C) to NWEF, AAR 1-64A

showing main body of wreckage looking up the path of the wreckage

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E

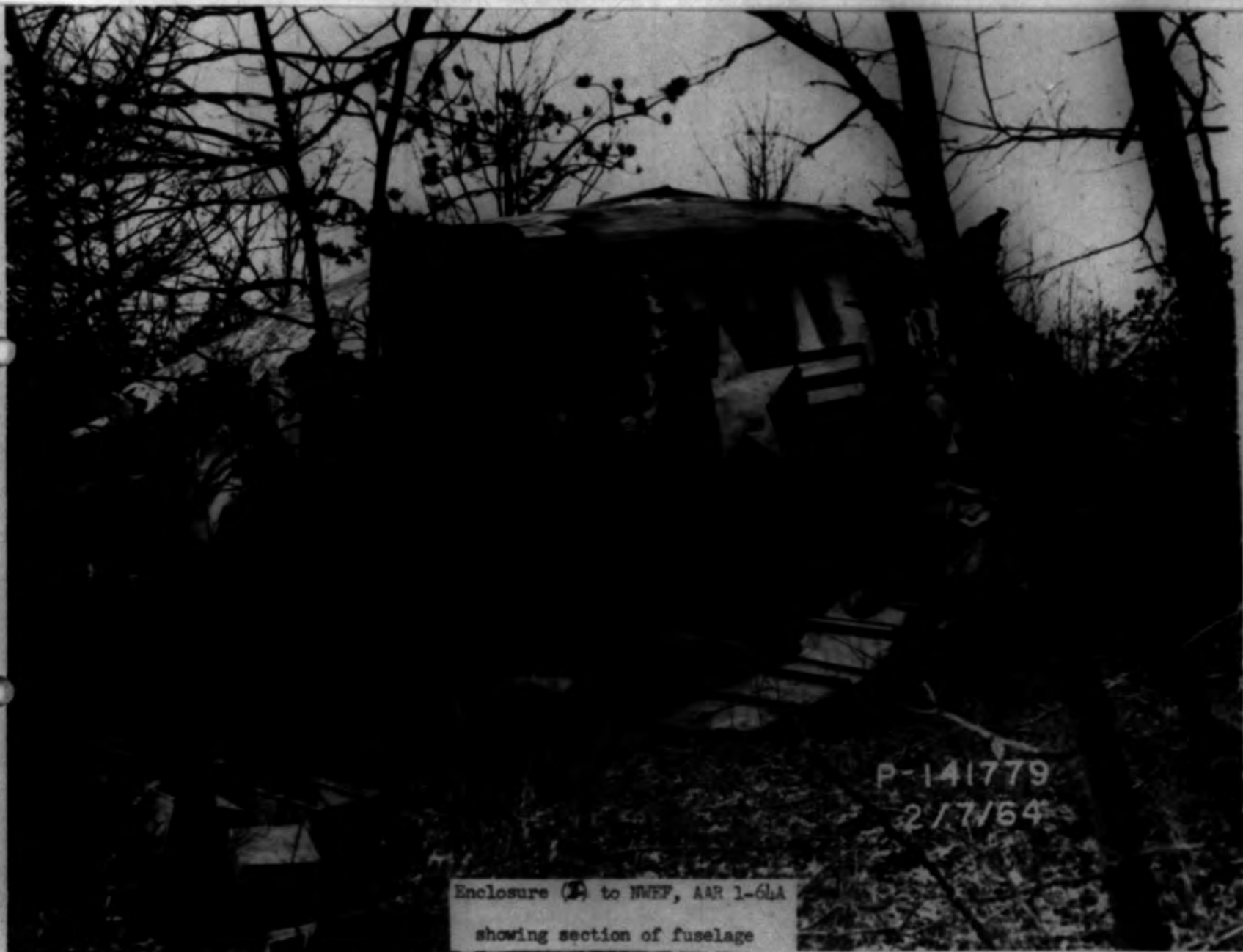


P-141778
2/7/64

Enclosure (4) to NWEF, AAR 1-64A
showing main body of wreckage

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. I, OPNAVINST 3750.6E

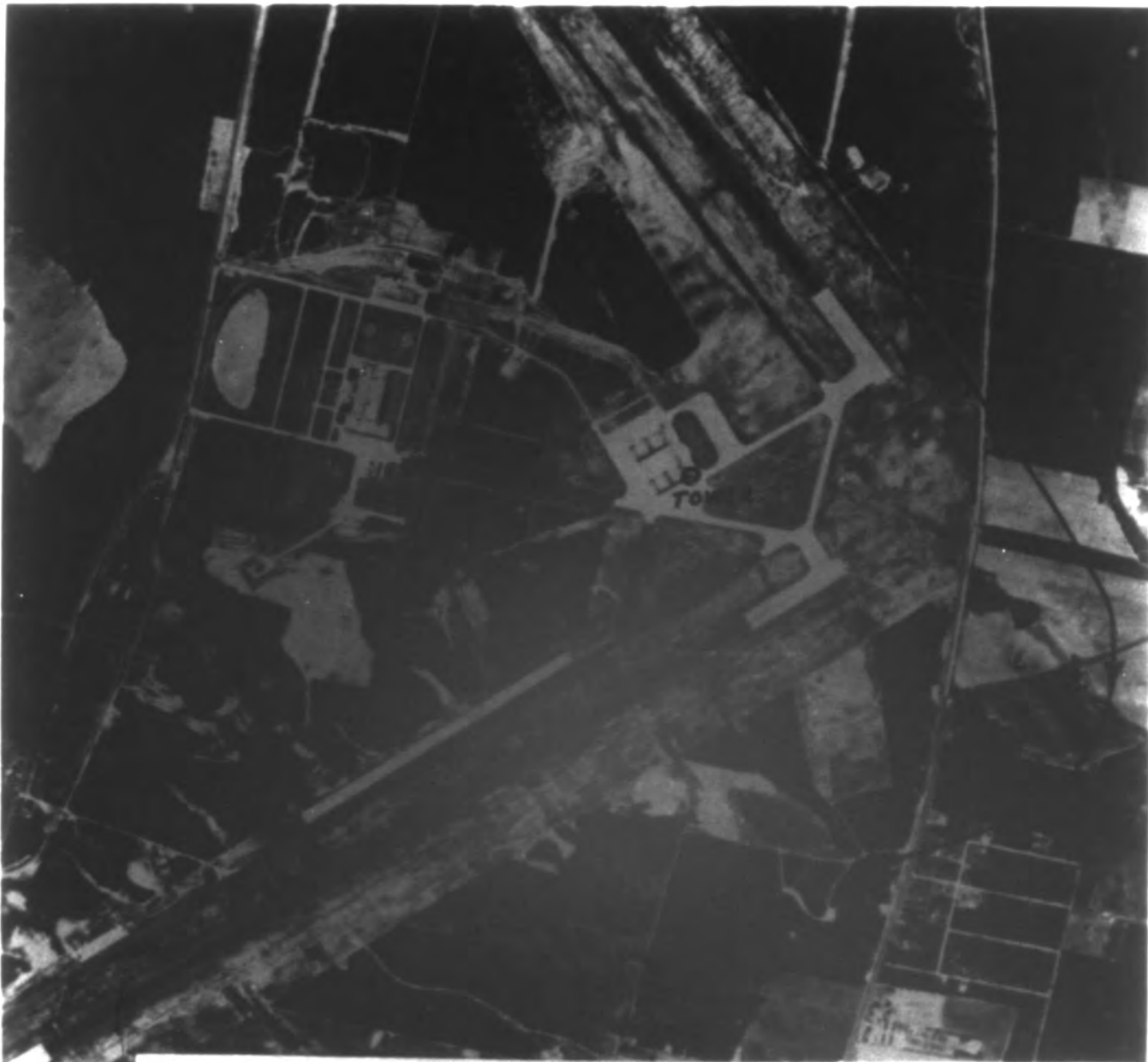
I



P-141779
2/7/64

Enclosure (3) to NNEP, AAR 1-64A
showing section of fuselage

SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC. 1, OPNAVIST 3750.6E



Enclosure (Y) to NWEF AAR 1-64A showing probable flight path prior to impact
SPECIAL HANDLING REQUIRED IN ACCORDANCE WITH SEC I, OPNAVINST 3750.6K

4900TH USAF DISPENSARY
4900TH AIR BASE GROUP
Kirtland Air Force Base
New Mexico 87117

REPLY TO
ATTN OF: SWEDS/Capt O'Briant/2364

13 February 1964

SUBJECT: Medical Officer's Report of Accident, C-54, Home Station
Kirtland AFB, NMex

TO: Flight Surgeon
Aircraft Investigation Board

Dear Doctor

1. The following information is submitted with regards to the C-54 accident on 6 February and with special reference to page 2 of MOR of accident. The investigation here reveals no pertinent physiological, socio-physiological or other personal factors. However, for your information the following is submitted on each crewman.

a. Capt Kyle Hunter Morris. I have personally been acquainted with Capt Morris for approximately one year and during this period of time I have flown with him and seen him in my office for minor illnesses. I also accomplished his most recent physical examination in June 1963. There was not to my knowledge any predisposing physical condition which would be relevant, I believe, to this investigation. Further, Capt Morris seemed to take pride in maintaining good physical condition. In the 24 hours preceeding the flight there were no unusual events in Capt Morris' routine. Discussion with Capt Morris' wife reveals that he was in excellent spirits as usual the day and evening prior to the day of the accident. He was at home that evening and had one drink before dinner and one drink before retiring. It might be noted that Capt Morris was never an excessive drinker. He retired early and had approximately 9½ hours sleep. He arose at approximately 0500 hours in order to meet the proposed 0630 take-off. To Mrs. Morris' knowledge there were no family problems whatsoever and there were no financial problems or any other type problem. There is no indication whatsoever that he was preoccupied with anything. He had a very adequate breakfast on board the aircraft approximately 45 minutes after take-off. This was confirmed by Commander (b) (6) who was aboard (co-pilot), the flight as far as Bunker Hill AFB, Indiana. Commander (b) (6) relates that Capt Morris seemed his usual self, did not appear tired, preoccupied nor did he give any indication that he was not his usual self. As far as lunch was concerned it appears that flight lunches were ordered at Bunker Hill and taken aboard the aircraft. This I believe is all the pertinent socio-psychological factors preceeding the flight.

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Enclosure (2) to NWEP AAR 1-64A

b. Commander Robert Baker. Commander Baker had what appeared to be a normal duty day prior to the day of the accident. Information from his wife indicated that the evening and night prior to the flight was completely uneventful. He was in good spirits and was not preoccupied with any family problems nor any socio-economic problems. He had no alcoholic intake the night preceeding the accident and retired earlier than usual and had approximately 8 - 9 hours of uninterrupted rest according to Mrs. Baker. The Commander was in the habit of retiring early the night before a flight in order that he receive adequate rest. Commander Baker also arose at approximately 0500 hours on the morning of the accident. He had breakfast aboard the aircraft approximately 1 1/2 hours after take-off, again according to Commander (b) (6). All of the crewmen he was sure ate their breakfast which he describes as quite adequate. There is no other pertinent socio-psychological or environmental information on Commander Baker.

c. Lt Allen Abel. It is my understanding that Lt Abel was not actually a crew member however the following information is submitted. Lt Abel's family had left the area therefore we were unable to obtain direct information; the following was obtained from close associates. The day prior to the accident was a normal duty day for Lt Abel, with no notable events occurring the evening and night prior to the accident; Lt Abel bowled in a mixed league with his wife the evening of 5 Feb 64. He retired at a normal time for him, however he made a comment to Commander (b) (6) (with whom he rode to work the morning of the accident) that after retiring he was unable to sleep for some reason which he attributes to his bowling and that he tossed and turned until approximately 0300 hours. Otherwise there are no other factors that I am able to elicit. He also had an in-flight lunch after departure from Bunker Hill.

d. Norman Ralph Seitz. The information indicates he had an uneventful day prior to the flight and information from a friend (next door neighbor) with whom he was visiting that night indicates that the evening and night was completely uneventful and that he did not seem preoccupied with any family or socio-economic problems. As best as can be determined he retired at a usual time and received a normal amount of rest. He too had breakfast aboard the aircraft and as far as can be determined had an in-flight lunch after departing Bunker Hill.

e. Rex Watson Caldwell. The following information was obtained on this man from a close associate and long time acquaintance. He had no family problems or troubles, no pressing debts or financial problems and appeared to be in excellent spirits the day before and the morning before take-off. This associate states that Caldwell had not been drinking the night prior to the accident and that he had a good nights rest. He also had breakfast aboard the aircraft and as the other crew members the breakfast was considered quite adequate. He also as best can be determined had planned an in-flight lunch after departure from Bunker Hill.

2. I have been unable to determine for sure whether lunch for all the crew members was planned in-flight after departing Bunker Hill or not however according to Commander Stolpe (who departed at Bunker Hill) he felt that the crew members had planned to order in-flight lunches at Bunker Hill and eat lunch after take-off. This then concludes the information that I have been able to get together for you which I thought might give you a little background to support the page 2 work copy of each crewman that I am forwarding. I am unable to complete Section D, Aircraft Data Book and personal records have been forwarded to the Board therefore I assume this information is available to you.

3. If I can be of any further assistance please feel free to contact me.

Sincerely,

(b) (6)

Captain, USAF, MC
Flight Medical Officer

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a/s

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Enclosure (2) to NWEF AAR 1-64A

Transcript of statement of (b) (6) crewman
in jump seat in cockpit, concerning the mishap of C-54, BuNo 56522 at
Peconic River Airport on 6 February 1964 at 1913R.

Q. You say coming out of Albuquerque was just a normal routine flight right?

A. Right.

Q. Did Capt MORRIS and CDR BAKER make the take-off at Albuquerque?

A. Yes Sir.

Q. Where was Mr. (b) (6) on this leg?

A. On this leg, I believe that he was in the lounge compartment.

Q. Landing at Bunker Hill, do you remember the weather conditions?

A. I don't remember. I believe it was pretty fair weather.

Q. You were on the jump seat for the landing at Bunker Hill and Capt MORRIS was on the left side and CDR BAKER on the right side?

A. Yes Sir. It was possible that Mr. (b) (6) was on the right side, one of the two, but I am sure that the Capt made the landing.

Q. You were on the ground about an hour and a half at Bunker Hill and departed for Peconic, was any reference or statement made by Capt MORRIS to CDR BAKER about the enroute weather or weather at Peconic?

A. Yes Sir. They discussed and said it was pretty bad weather at Peconic.

Q. Was there anything unusual about the flight from Bunker Hill to Peconic?

A. No Sir. It seemed to be a normal flight

Q. How about chow?

A. We had chow..some of us ate just before landing at Bunker Hill and some of us ate just after we took off from Bunker Hill.

Q. Was this box lunches prepared at Albuquerque or was this unprepared rations?

A. Unprepared rations, we had cheeseburgers. I believe the Capt had his after we were airborne again. Mr. (b) (6) had his before we landed because he was departing the aircraft at Bunker Hill and I think 3 or 4 people ate then and the rest of us ate after we were airborne again leaving Bunker Hill.

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Enclosure (AA) to NMEF AAR 1-64A

- Q. You were in the cockpit, who made the take-off at Bunker Hill?
- A. The Capt made the take-off, CDR BAKER was on the right side.
- Q. Did they occupy these seats all the way from Bunker Hill to Peconic?
- A. Yes - all the way.
- Q. They didn't rotate at all?
- A. No
- Q. Did you occupy the jump seat all the way?
- A. Yes.
- Q. And Seitz? (other Plane Capt)
- A. He stayed in the radio chair most of the time.
- Q. On coming into Peconic River, were you listening to Center on the head phones?
- A. No sir...I didn't have a head set on.
- Q. Did the Captain make any reference to the weather to CDR BAKER upon arriving at Peconic River with reference to what their intentions were.
- A. Not to my knowledge, unless they were on ICS. Evidently they called in and were told the weather was bad and the Capt said he would like to go down and take a look and if we couldn't get in we would divert to Quonset Point. He said that they wanted to shoot an approach, see.
- Q. What type approach was this do you remember?
- A. I believe it was ILS.
- Q. Did you ever see the ground or anything on the first approach?
- A. No sir, I didn't personally see the ground, I didn't see anything, I wasn't especially looking, I was monitoring the instruments pretty close.
- Q. What kind of power was he carrying on the approach?
- A. He was carrying about 2300 RPM and 23".

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Enclosure (AA) to NWEF AAR 1-64A

- Q. This was on the Glide Slope?
- A. Yes.
- Q. On the first approach when you didn't break contact, do you remember what power was added.
- A. When we climbed out, we were carrying about 35" and 2300 RPM. About normal climb power.
- Q. On the first approach, do you remember the flap setting?
- A. I think the flaps were down to 20°.
- Q. How about the gear?
- A. The gear was down.
- Q. As the engineer riding the jump seat, were you utilized as an engineer or just more or less to monitor the instruments. Did you ever handle the power settings.
- A. Yes sir, we handle power settings sometime. We had just converted over to the NATOPS Standardization Manual and we had been handling some power.
- Q. You missed the first approach and started back, do you remember anything that transpired in the cockpit as far as re-tuning radio, re-checking them to make sure that they were working properly.
- A. Yes sir.. when we climbed out and leveled off the Capt said we'd get squared away and check everything over and we would make one more try.
- Q. How was the first approach?
- A. It was a little turbulent, in fact I believe we carried a little prop alcohol.
- Q. Did it seem like a normal ILS approach or was it a little erratic?
- A. As far as I know, it seemed pretty normal.
- Q. Have you ridden on ILS approaches with the Captain before?
- A. Yes sir, on training hops.
- Q. Do you remember breaking contact on the second ILS approach.
- A. No.
- Q. Do you remember executing the wave off on the second approach?
- A. No, I don't remember a wave off.

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Enclosure (AA) to NMEF AAR 1-64A

Q. Was any power added on this wave-off?

A. To my knowledge there was none.

Q. The second approach was about the same power settings on the Glide Slope as on the first one about 2300 RPM and 23".

A. Yes.

Q. Do you remember the flap configuration?

A. I think he was dirtied up, he was carrying full flaps and gear down.

Q. Full 40° flaps?

A. I believe so.

Q. And the gear Down?

A. Yes sir.

Q. Do you remember where he called for the gear?

A. No sir, I don't. I believe CDR BAKER was taking care of the gear and flaps.

Q. But you don't remember whether he put the gear down after or before contact.

A. No sir.

Q. Did he seem to push it over right at the last moment to break contact about the MM or do you remember the MM flashing on the dash, you know the yellow light on the dash?

A. No, I don't remember.

Q. You don't remember seeing that?

A. No, I don't remember seeing that at all.

Q. How did he execute the wave off? When he started the wave off was it just a pull up or did he holler wave off for you to monitor the instruments and start the power up.

A. I don't remember the wave off on the second one at all.

Q. But to the best of your knowledge on the second wave off after you broke contact there was never any power added?

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Enclosure (AA) to NWEF AAR 1-64A

- A. No sir, I didn't add any power. To my knowledge I never received the command to add power.
- Q. Do you remember the Capt asking for the flaps and gear up?
- A. No sir, I don't remember.
- Q. Do you recall ever seeing the field on the last approach? Did you ever look out?
- A. No, on a weather approach I made it a habit never to look up because it wasn't my responsibility. I was always monitoring the instruments.
- Q. Do you remember anything from the last wave off prior to the crash anything that transpired in the cockpit?
- A. The last wave off, the only thing I remember is the Capt said let's have a look and he called for the landing lights and I ran them down and that's when I saw the trees.
- Q. You don't remember a tight turn just prior to seeing the trees?
- A. No. It's possible there was a tight turn, it seemed that I was looking at the trees from a weird angle. It seemed that I was more or less looking up and out into the trees when I saw them.
- Q. You don't have any recollection as to airspeed?
- A. As near as I can tell, the airspeed was somewhere in the vicinity of 110 knots.
- Q. Was there any unusual talking or actions in the cockpit by CDR BAKER just prior to seeing the trees?
- A. Once, before I saw the trees I remember CDR BAKER pointed the airspeed out to the Capt and the Capt said he was watching it.
- Q. You don't recall what the actual speed was?
- A. That's when it was around 110 knots.
- Q. I'm sure you have been in this aircraft when they demonstrated stalls.
- A. Yes.
- Q. Would you say this aircraft was stalled in the turn?
- A. I don't know, I couldn't say, I don't remember the turn.
- Q. From turning on the landing lights and seeing the trees, do you remember anything after that?

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Enclosure (AA) to NWEF AAR 1-64A

- A. That's it, that's all I remember, I don't remember a thing.
- Q. Did Capt MORRIS fly this airplane very much.
- A. He flew it occasionally, none of the pilots fly it consistently.
- Q. Who is primarily your C-54 man at the Weapons Facility?
- A. CDR (b) (6) was our Projects Officer.
- Q. He was your better qualified Plane Commander, your check pilot?
- A. Well, more or less, he was the Projects Officer.
- Q. You flew with Capt MORRIS quite a bit on the airplane. How was he as a C-54 Plane Commander?
- A. He was usually very good. Very good flight commander.
- Q. How was his instrument work.
- A. Usually he was very good on instruments. He seemed to be very conscientious about his instrument work.
- Q. How about CDR BAKER in his instrument work. Would you say he was average or better than average Co-pilot?
- A. I would say he was probably average.
- Q. Was Capt MORRIS real proficient in instruments?
- A. To me, he seemed to be real proficient in instrument work. He did instrument work all the time on training hops and cross countries, he was constantly under the goggles. He was always doing instrument work.
- Q. On arriving at Peconic River, did everything seem normal.
- A. Well, it seemed pretty normal to me, I wasn't on the head set or anything. I didn't hear Peconic talking to them, but it seemed pretty smooth and normal as far as I knew.
- Q. There wasn't any confusion between Capt MORRIS or CDR BAKER as to what they were going to do or what they should do?
- A. There didn't seem to be.

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Enclosure (AA) to NNEF AAR 1-64A

- Q. Was there any discussion as to the weather being as bad as it was reported on arrival?
- A. Yes sir, they discussed it when we arrived. Prior to making the first approach, CDR BAKER made a remark that we ought to go on to Quonset Point and the Capt said he wanted to make an approach and look at it first.
- Q. The Capt wasn't confused on the approach?
- A. He didn't appear to be, no.
- Q. By missing the first approach, not breaking contact, it didn't phase him to go ahead and proceed to his alternate.
- A. No sir, he climbed back out and said let's get squared away and take one more look.
- Q. To the best of your knowledge, all of the Navigation equipment was working on the aircraft.
- A. Yes
- Q. How about the ILS, all components on the ILS.
- A. As far as I know it was working good.
- Q. Had it been checked before, prior to this flight?
- A. It has been working prior to the hop and seemed to be working on the pre-flight.
- Q. So it was checked pretty much on every flight?
- A. Yes
- Q. Do you remember any reference to the wind condition on the last approach?
- A. No sir.
- Q. You never did see the field, runway or anything on the last approach.
- A. No, I never did, the only thing I saw was the trees. The way I understand it, the Capt and CDR BAKER did see the runway.
- Q. He saw the runway, but he made reference to the fact he was getting too much drift, too much cross wind and that's when he elected to go-around?
- Q. You say on this last approach, when he did break contact, he had the gear and flaps down?

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Enclosure (AA) to MWEF AAR 1-64A

- A. To the best of my knowledge I would say that they were around 30° or full.
- Q. You don't have any idea how low he took it on the approach prior to the wave off?
- A. No sir.
- Q. Do you have any idea how high he climbed out on the wave off just prior to the crash.
- A. No, I don't have any idea.
- Q. To the best of your knowledge on the last wave off just prior to the crash, there was no power added.
- A. To the best of my knowledge, I don't remember any power being added. If power would have been added, the Capt would have added the power and I would have been given a command to back him up. I never received a command like this.
- Q. Was any reference made on the wave off as to which way they were going to turn. Was CDR BAKER asked to keep the field in sight as they made the turn?
- A. Not to my knowledge, I didn't hear this. They might have talked this over on the phones, I don't know.
- Q. In the normal conversation in the cockpit between the two pilots, was it on the inter-phone or was it just word of mouth?
- A. I believe most of it was just word of mouth. There was really very little conversation in the cockpit at all.

Board Comment:

(b) (6) was unable to write a statement due to his condition. His condition had greatly improved when this interview was made. The original interview was recorded, but did not transcribe properly. The statement that Capt MORRIS made the take-off at Albuquerque is incorrect. (b) (6) testimony is considered factual and sincere. His spirits were good despite his condition.

Authenticated:

(b) (6)

Aviation Safety Officer

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Enclosure (AA) to MEF AAR 1-64A